Official Journal of the
INTERSTATE POSTGRADUATE MEDICAL ASSOCIATION

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VOLUME 4, Number 5 NOVEMBER 1948

TREATMENT OF FISTULA-IN-ANO
Mr. C. Naunton Morgan

SURGICAL TREATMENT OF COARCTATION OF THE AORTA
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Scientific Exhibit
DIAGNOSIS OF PROSTATIC DISEASE
ROGER W. BARNES, M.D., R. THEODORE BERGMAN, M.D., AND D. S. RAUSTEN, M.D.

COMPLETE TABLE OF CONTENTS ON PAGE 5

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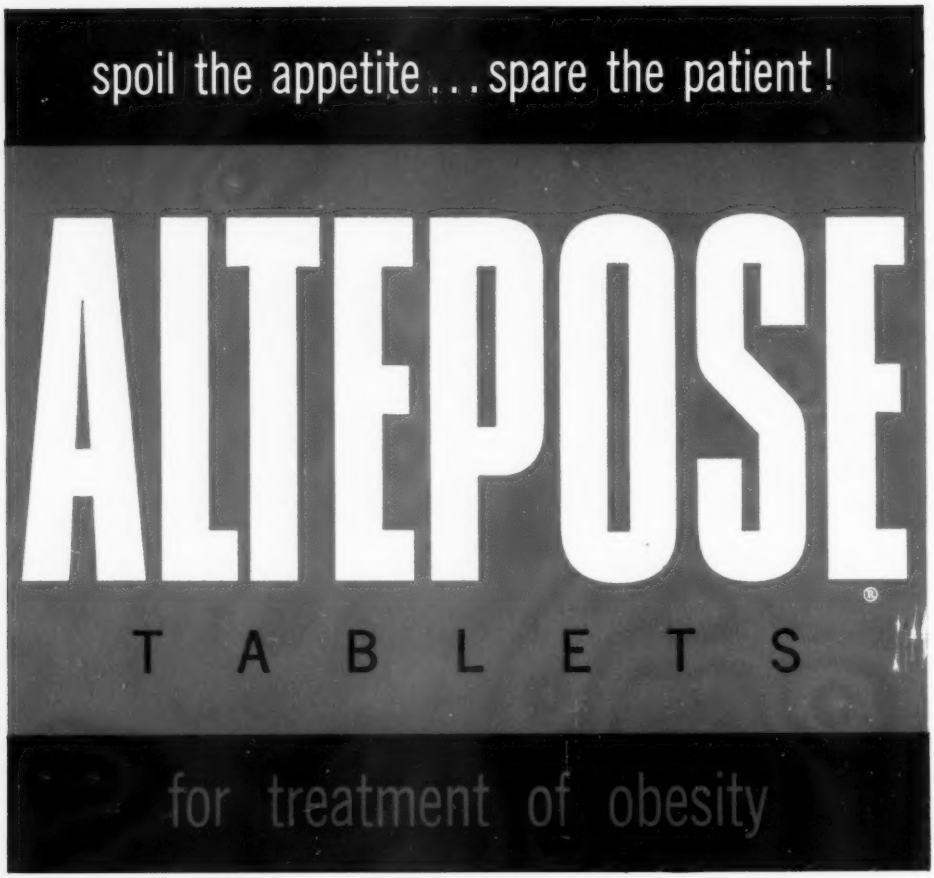

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NOVEMBER, 1948 VOL. IV, NO. V

Table of Contents

Special Articles

TREATMENT OF FISTULA-IN-ANO: With Special Reference to Ano-Rectal Fistula.
Mr. C. Naunton Morgan 395

SURGICAL TREATMENT OF COARCTATION OF THE AORTA.
O. Theron Clagett, M.D. 404

THE STUFFY NOSE.
J. Lewis Dill, M.D. 413

HEMORRHAGE AT TIME OF DELIVERY.
Charles A. Gordon, M.D. 417

Diagnostic Clinic

MAJOR DEFECTS OF THE FACE AND THEIR SURGICAL REPAIR.
James Barrett Brown, M.D., and Minot P. Fryer, M.D. 420

Case Report

PHYSICAL EXERCISE IN THE TREATMENT OF HYPOCHONDRIASIS.
Walter Freeman, M.D. 435

Clinicopathologic Conference

PULMONARY INFILTRATION WITH ADENOPATHY.
From Nichols Veterans Administration Hospital 438

Experimental

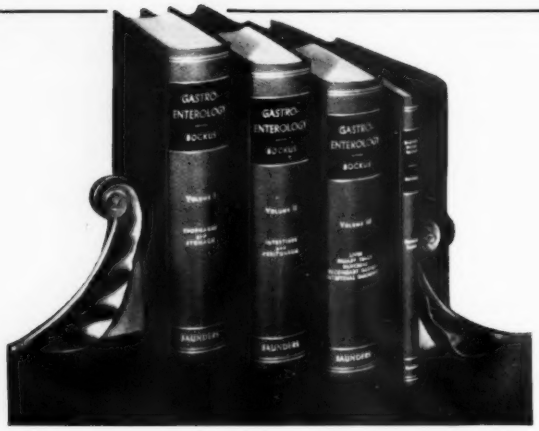
TOPICAL TREATMENT WITH THEPHORIN.
Bedford Shelmire, M.D. 443

Scientific Exhibit

DIAGNOSIS OF PROSTATIC DISEASE.
Roger W. Barnes, M.D., R. Theodore Bergman, M.D., and D. S. Rausten, M.D. . . . 447

Departments

THE MEDICAL BOOKMAN. *Glomerular Nephritis: Diagnosis and Treatment* 453
MEN OF MEDICINE. *Albert Schweitzer*, M.D. 457
EDITORIALS. *Alcoholism* 468
NEW DRUGS AND INSTRUMENTS 470
LEAVES FROM A DOCTOR'S DIARY. Maurice Chideckel, M.D. 472



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Treatment of Fistula-In-Ano

WITH SPECIAL REFERENCE TO ANO-RECTAL FISTULA

C. NAUNTON MORGAN*

LONDON, ENGLAND

IN ENGLAND, John Arderne wrote a treatise on fistula-in-ano as long ago as the fourteenth century and yet today, cure of an extensive fistula-in-ano is still a problem. We at St. Mark's Hospital have made a special study of some of these problems.

A fistula-in-ano results from nature's failure to obliterate an abscess cavity which arises in relation to the ano-rectal region. Imperfect healing by third intention, namely cohesion of granulation tissue allows the formation of the main track of a fistula. The principle of surgical treatment is the formation of a wound which will heal by second intention (healing from the base). This is done by laying open the main track and its offshoots, removing skin, etc., in order to fashion a flat wound.

Because the main track must be laid open from its internal to external openings, the problem arises of what portion of the ano-rectal musculature will require division.

Three important facts must be known in order to treat successfully a fistula-in-ano; firstly, the anatomy of the muscles; secondly, their function and thirdly, the position of the main track in relation to the muscles.

The circular muscle coat of the rectum extends into the anal canal where it becomes enlarged to form the internal sphincter. It surrounds the anal canal and ends at a point just above the anal orifice. (Figure 1.) This sphincter, which is probably important in maintaining postural tone, has been mistaken in the past for the ano-rectal ring which it will be seen lies at the ano-rectal junction (vide infra).

External to the circular muscle is the longitudinal muscle coat. The longitudinal muscle of the rectum fuses with the puborectalis which is a part of the levator ani, to form the composite longitudinal muscle of the anal canal. This fibromuscular structure is inserted into the anal skin just within the anal orifice as the anal intermuscular septum and forms an important landmark, the *anal intermuscular depression*. (Figure 1.) An additional septum from the longitudinal muscle extends outwards between the subcutaneous external sphincter and the other parts of this sphincter across the ischiorectal fossa to the ischial tuberosity. The ischiorectal fossa is thus divided into the subcutaneous perianal space and the ischiorectal space. The perianal space contains the subcutaneous external sphincter and the majority

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Presented before the meeting of the Interstate Postgraduate Medical Association of North America, St. Louis, Missouri, October 14 to 17, 1947.

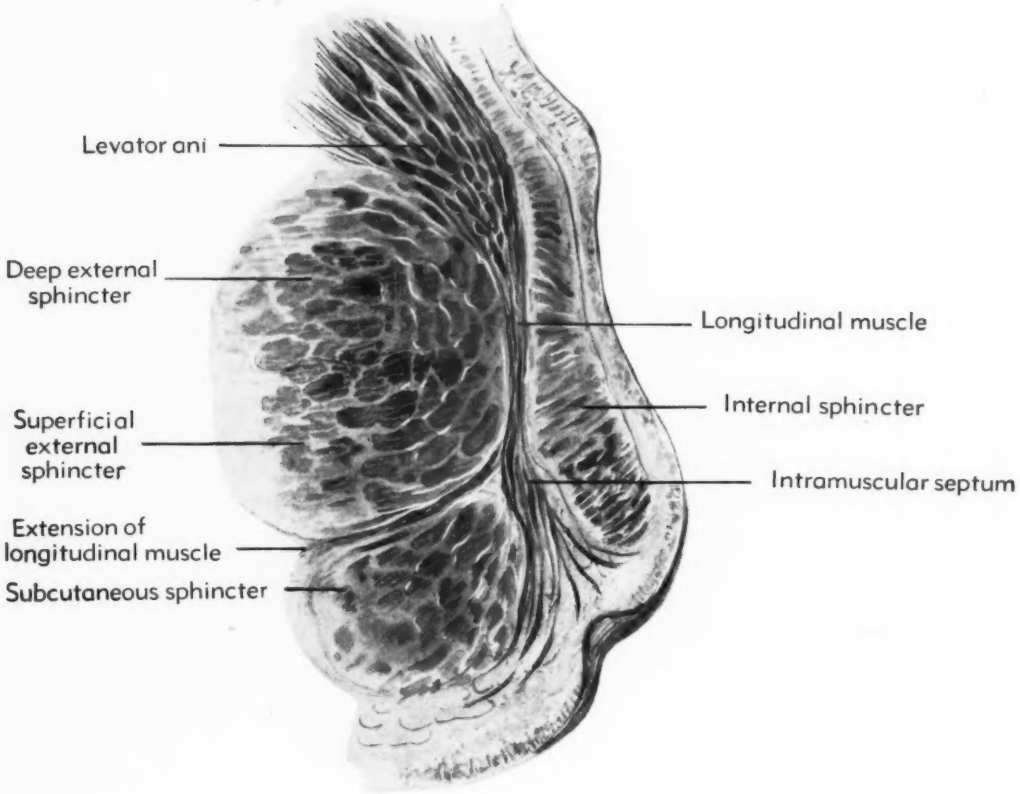


Figure 1. Sagittal section through ano-rectal musculature.

of fistulae lie within it. (Figure 11.)

The external sphincter muscle consists of three parts: subcutaneous, superficial, and deep. The two latter portions of the muscle surround the anal canal and lie external to the composite longitudinal muscle; the adjacent fibers of the deep external sphincter intermingling with those of the pubo-rectalis portion of the levator ani. The subcutaneous portion of the external sphincter is the only muscle surrounding the actual anal orifice. (Figures 1 and 2.)

The anterior and inferior fibers of the pubo-coccygeus portion of the levator ani which arise from the back of the pubis, form the strong pubo-rectalis muscle. These muscle fibers pass backwards from the pubis on either side of the prostate or vagina to form a continuous sling of muscles behind the rectum. (Figure 3.) The muscular sling is in intimate contact with the lateral and posterior aspects of the ano-rectal junction; the gap left in the muscle ring anteriorly, at this level, being completed in front by the deep portion of the external sphincter. (Figure 2.)

The muscle ring thus formed by the pubo-rectalis sling and anteriorly by the deep external sphincter is called the *ano-rectal ring*—an important landmark in rectal surgery.

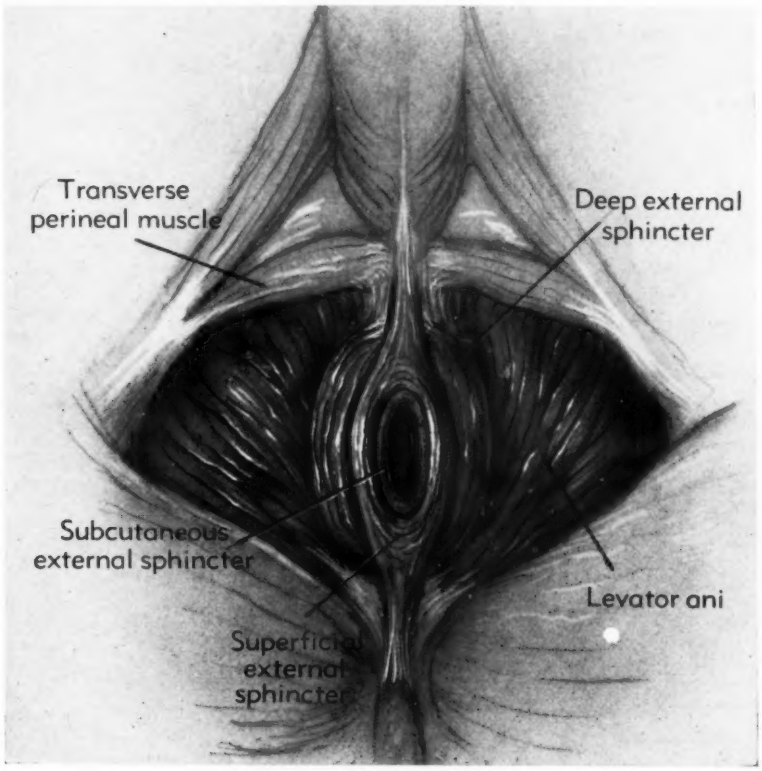


Figure 2. Ano-rectal musculature (from below).

It is the role of the puborectalis sling and the deep and superficial external sphincters to maintain continence. The subcutaneous external sphincter is of little importance in this respect and its function is probably that of preventing entrance into the rectum from without.

As long as a portion of the ano-rectal ring is preserved, good control of normal feces will be retained. It will be realized therefore that accurate location of the ano-rectal ring is of great surgical importance.

LANDMARKS

The ano-rectal ring can be felt when the finger is slowly withdrawn from the rectal ampulla into the anal canal and is also visible through a proctoscope. (Figures 4 and 5.)

The anal intermuscular depression formed by the insertion of the longitudinal muscle is also palpable and may be seen on a prolapsed hemorrhoid. Its position marks the upper limit of the subcutaneous external sphincter. (Figure 6.)

CLASSIFICATION OF FISTULAE

The most practical classification of fistulae is based on the relation of the main track to these palpable landmarks.

1. Subcutaneous and submucous (5 per cent) (no relation of surgical importance to muscle). (Figure 7.)

2. *Anal fistula*—Main track is situated below the ano-rectal ring but lies at or above anal

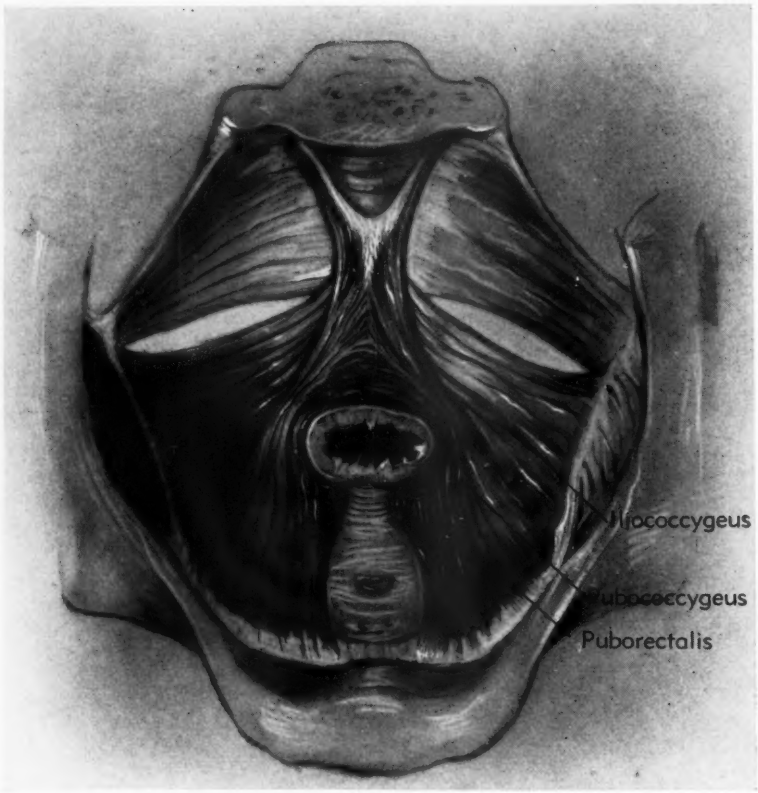


Figure 3. The levator ani muscles (from above).

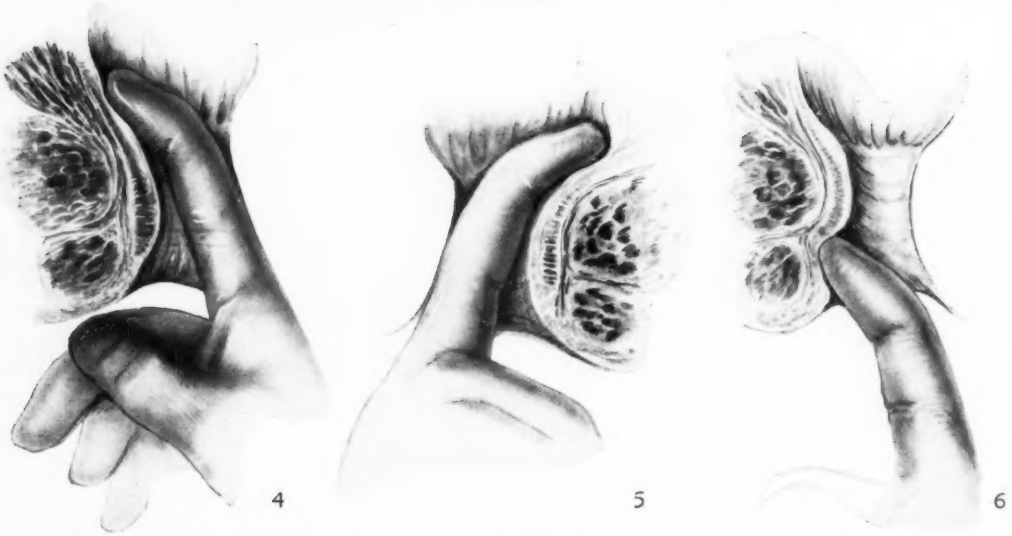


Figure 4. Palpation of ano-rectal ring (labially and posteriorly). Figure 5. Palpation of ano-rectal ring (midline anteriorly where it is formed by deep portion of external sphincter only). Figure 6. Palpation of anal intramuscular depression.

intermuscular depression (i.e., above subcutaneous external sphincter).

Low anal—At level of anal intermuscular septum (75 per cent).

High anal—Above the anal intermuscular septum but below the ano-rectal ring (15 per cent). (Figure 7.)

3. *Ano-rectal fistula*—Main track lies above level of the ano-rectal ring (5 per cent).

Full discussion of the diagnosis and treatment of all types of fistulae is not feasible here but it is pointed out that the main track of an anal fistula can be palpated under the skin running *radially* towards the anal canal and further, an inserted probe will also be found to lie in this direction. (Figures 8 and 9.) It is possible to lay open the main track completely and to fashion a flat wound because the main track lies below the ano-rectal ring. (Figure 10.)

It is the ano-rectal fistula which is the real surgical problem. The main track extends deeply into the ischiorectal space above the level of the ano-rectal ring. It cannot be treated in the same manner as the foregoing types, since the ano-rectal ring lying on its inner wall, would be divided, resulting in incontinence.

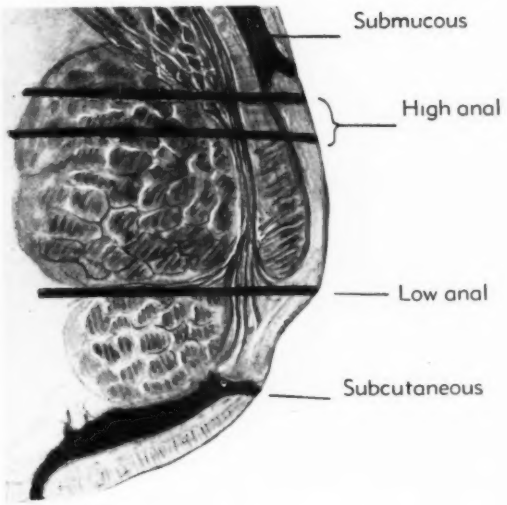
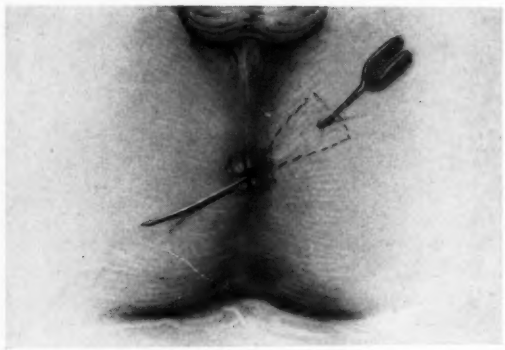


Figure 7. Closeup view of anal fistula.

ANO-RECTAL fistula arises from infection which has extended deeply into the ischiorectal space. This space is bounded externally by the bony pelvis and obturator muscle and fascia, while its inner wall is formed by the inferior aspect of the levator ani and the ano-rectal musculature. (Figure 11.) The space extends upwards to the origin of the levator ani and passes under and above the transverse perineal muscle and triangular ligament. The pattern of this type of fistula is shaped by the position and form of the pubococcygeus and more especially the pubo-rectalis muscles. (Figure 12.)

The main track passes upwards in the ischiorectal space, *parallel* to the anal canal and can neither be felt under the skin nor by the finger in the anal canal. (Compare radial probe of anal fistula.) (Figures 8 and 9.) It extends to the outer aspect of the puborectalis and inflammation may spread among the fibers of this muscle. In the rectum an induration is palpated just above the ano-rectal ring and the point of the probe can be felt in relation to this induration. When the uppermost limit of the parallel main track is reached, an anterior extension will be found running forwards along the puborectalis towards the pubis. Another extension to the opposite ischiorectal space, running behind the ano-rectal junction along the sling fibers of this muscle and passing under the coccygeal origin of the superficial external sphincter, may be present. (Figure 13.)

Finally, an extension into the anal canal should be sought for with the probe and by palpation. The anterior extension and that to the opposite side lie on, or even in, the puborectalis and are in close relation to the bowel wall and therefore give the impression that the submucous coat of the bowel is involved. This is not the case, however, since if there be infection in the submucous layer, it would extend downwards and be felt below the level of the



Figures 8*a* and *b*. Low anal and subcutaneous fistulas may be palpated beneath the skin.

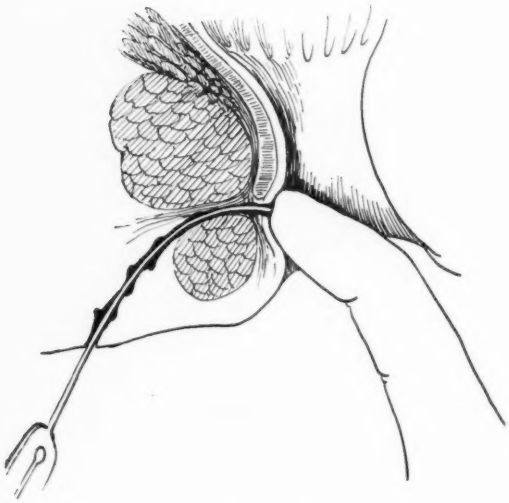


Figure 9. Anal fistula (low). Finger palpating radially or transversely; probe may be inserted through track.

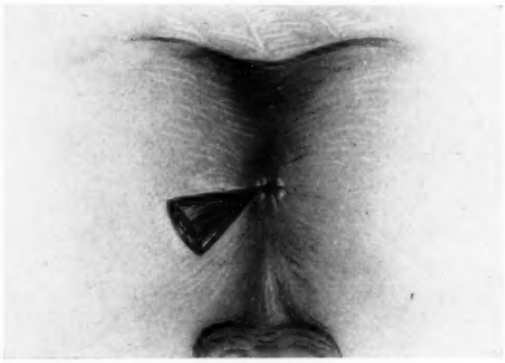


Figure 10. Track opened and skin removed to form a flat wound extending into anal canal.

ano-rectal ring in the anal canal. (Figure 14.)

If the induration which is palpable just above the ano-rectal ring in the case of an ano-rectal fistula be mistaken for a submucous abscess and an incision made into it from the lumen of the bowel, an internal opening will be produced above the level of the ano-rectal ring. This is a disastrous mistake since such a fistula is usually incurable.

The internal opening in an ano-rectal fistula lies below the level of the ano-rectal ring. (Figure 15.)

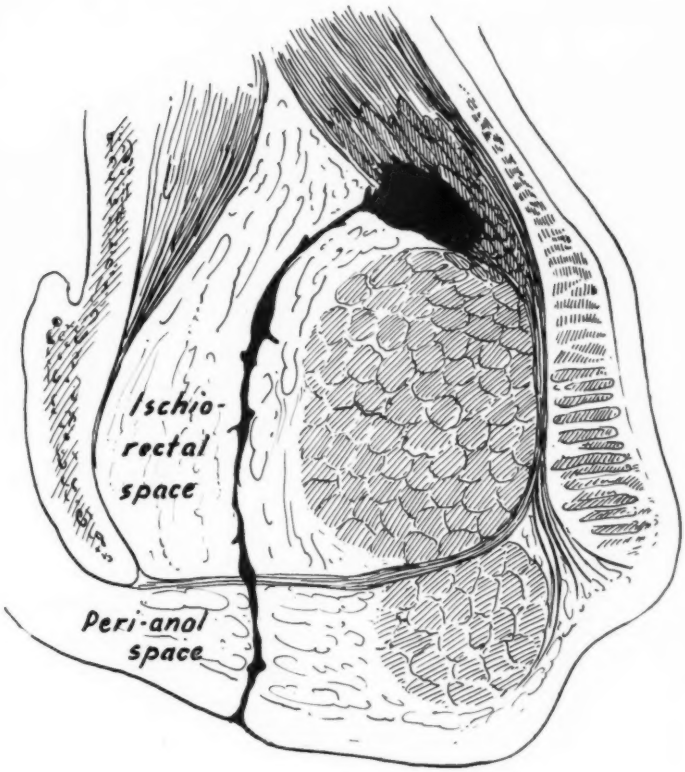


Figure 11. The ischiorectal and perianal spaces.

TREATMENT

Patience, especially on the part of the patient, is necessary and the surgeon must have the pattern of this type of fistula clearly in his mind and be on the lookout, during the period of healing, for bridging of granulation tissue or for an overlooked extension.

Because the parallel probe lying in the main track extends deeply with its point in close proximity to the bowel wall, a guarding finger must be placed in the rectum while incision of the tracks is carried out. First, a deep incision is made along the probe in the main track directly backwards towards the coccyx cutting through skin and fat of the ischiorectal space. When the sides of the wound are retracted, the granulation tissue lying on the under surface of the puborectalis is seen. The anterior or forward extension is located and laid open in a forward direction, the transverse perineal muscle being divided.

Next the track to the opposite side is sought and opened. If this latter extension is present, repetition of the pattern may be found in the opposite ischiorectal space. (Figure 12.)

The extension into the anal canal is finally looked for and the large cavity laid open into the anal canal.

Wide excision of skin and fat is necessary in order to make the large wound as shallow as possible, but in spite of this, the anterior part of the wound lying along and under the pubic

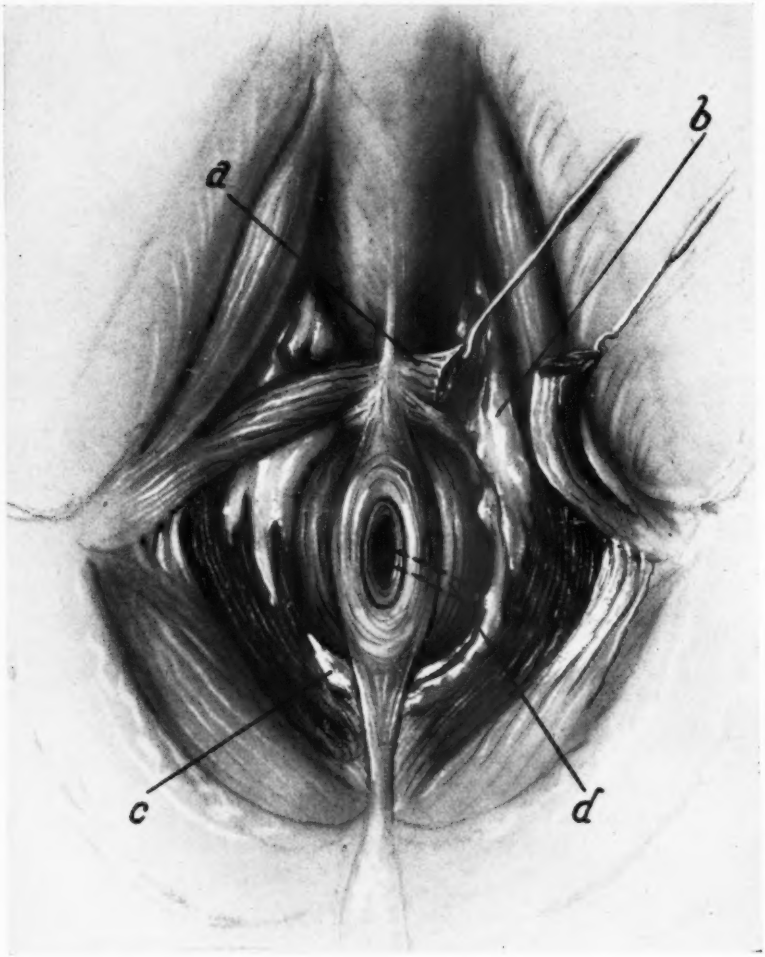


Figure 12. The pattern of an ano-rectal fistula (involvement of both ischio-rectal spaces). *a*. Transverse perineal muscle dissected. *b*. Forward or anterior extension. *c*. Extension to opposite side under coccygeal attachment of superficial portion of external sphincter. *d*. Extension into anal canal.

arch must remain as a deep cleft and bridging of granulation tissue across the healing wound must be prevented. Even if an extension into the anal canal is not found, division of the subcutaneous portion of the external sphincter together with the removal of skin at the anal verge should be carried out in order to flatten the wound at its inner aspect.

Flat dressings are placed in the wound in such a manner as to encourage healing by second intention.

The first redressing is done under pentothal anesthesia on the fifth day and then for the next week on alternate days. Any bridging of granulation tissue is broken down with the finger. Dressings and baths are then carried out twice daily. Several anesthetics may be required during the first few weeks in order to be sure that satisfactory healing is taking place.

In conclusion, we believe that the large majority of high anal fistulae are of the ano-rectal type and do not extend above the level of the

Figure 13. Extension to opposite side palpable through bowel wall.

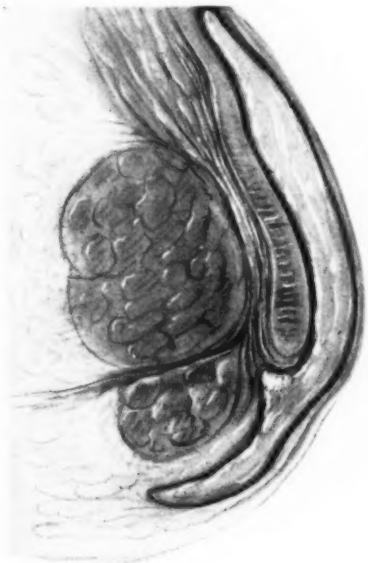


Figure 14. Extension of a submucous abscess downward in anal canal.

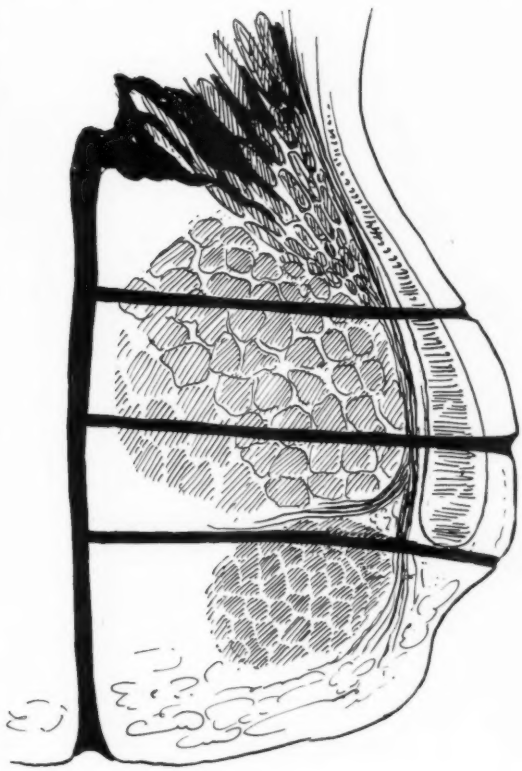


Figure 15. Possible levels of extension of ano-rectal fistula into anal canal.

levator ani muscle. A pelvirectal or supralevator fistula or abscess is, in our experience, a great rarity.

If the anatomy of the puborectalis and the pattern of these fistulae are remembered, cure will be obtained, and in the words of William Shakespeare, the patient will not "persecute time with hope, finding no other advantage in the process but only the losing of hope with time," even though the wound may take several months or longer to heal.

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Surgical Treatment of Coarctation of the Aorta

O. T. CLAGETT*

MAYO CLINIC, ROCHESTER

COARCTATION of the aorta was first described by Morgagni in 1760. Since that time numerous reports of single cases and occasionally more extensive reviews of the subject have appeared in the literature. For the most part, this literature has been concerned largely with the pathologic aspects of the problem. The first report on the possibility of a surgical attack on coarctation of the aorta was presented by Blalock and Park[1] in 1944. This work was confined to animal experiments. In the fall of 1944 Crafoord and Nylin[2] performed the first operation for this condition and in 1945 Gross and Hufnagel[3] reported the cases in which they had performed operations as well as the extensive experimental work they had done preparatory to the development of technics for this surgical procedure.

The developments in vascular surgery which now permit a surgical attack on coarctation of the aorta impose the responsibility of diagnosis of this condition on physicians everywhere. Coarctation of the aorta is no longer a subject of academic interest only. It is a matter of concern that this condition be diagnosed accurately and that the diagnosis be established as early as possible so that operation can be performed before extensive vascular damage or cardiac failure develops to deny patients their chance to get well.

The common opinion that coarctation is so rare that it does not warrant consideration is not tenable. Blackford[4] reported that coarctation occurs in one of every 1,500 of the population. Evans[5] found 11 instances of the adult type of coarctation in 16,215 necropsies, or one in 1,474. Levine[6] has estimated that 0.1 per cent of all persons have coarctation of the aorta. Lindgren[7] found 3 instances in 10,000 necropsies. According to Abbott,[8] of 1,000 congenital heart lesions, 176 were coarctation of the aorta. If one accepts only the more conservative estimates as to the incidence of this condition, it would still seem likely that in the United States there are at least 36,000 persons with this condition. It becomes apparent that the diagnosis of coarctation of the aorta is a matter of concern.

It is a peculiar paradox that although the diagnosis of coarctation of the aorta is not particularly difficult, it is rarely made. Abbott reported that in a series of 200 cases the diagnosis had been made clinically in only 4 per cent. In 1926 King[9] reported that in the years 1889 to

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Presented before the meeting of the Interstate Postgraduate Medical Association of North America, St. Louis, Missouri, October 14 to 17, 1947.

1923 at Johns Hopkins Hospital the diagnosis of coarctation of the aorta was made in only one instance. In the group of cases in which I have performed operations, one-half have been referred to the clinic for sympathectomy for hypertension. Apparently coarctation had not been considered as a possibility.

Coarctation of the aorta occurs in males three times as frequently as in females.[10] It may be of the infantile or adult type. In 176 cases reported by Abbott, the lesion was of the adult type in 105 and of the infantile type in 71. Bonnet[11] has offered a classification that is helpful in distinguishing the two varieties (Table 1).

The infantile variety is not of great concern from a surgical standpoint since lesions of this type, for the most part, are not amenable to surgical treatment owing to the frequent association of other anomalies that are not compatible with life. According to Abbott, other anomalies are present in 40 per cent of cases of coarctation. The most common associated anomaly in the adult type of coarctation is bicuspid aortic valves.[12]

The degree of coarctation may vary considerably from only slight narrowing of the aorta to complete stricture. In 200 cases Abbott found complete stenosis in 47, extreme stenosis (to 0.6 mm.) in 108 cases, and moderate stenosis (caliber one-third of normal) in 45 cases. The strictured site may be very short or several centimeters long.

O. THERON CLAGETT

Coarctation of the aorta is compatible with a long and fairly normal life in rare instances. One patient has been reported to have lived 92 years.[13] However, the prognosis of this disease is extremely poor in most cases. According to Abbott, 74 per cent of the patients die before the fortieth year of life and the average age at death is only 32 years. In general, death from this condition can come about in one of three ways. Death of a person in apparently good condition may occur suddenly from rupture of the aorta or of a cerebral aneurysm. Sudden cardiac failure may develop in a young, apparently normal person, or there may be evidence of a progressive vascular disease with dyspnea, fatigue, legache, headache, dizziness, sense of fullness in the head, buzzing in the ears, flushed face, epistaxis, and gradual heart failure.

In a group of cases reported by Abbott, death was due to cardiac decompensation in 60, to rupture of the aorta in 44, to rupture of a cerebral vessel in 24, and to bacterial endocarditis in 10. In Blackford's 196 cases, 68 patients died of gradual heart failure, 16 of sudden heart failure, 38 of ruptured aorta, 25 of cerebral hemorrhage, and 6 of bacterial endocarditis. These figures serve to indicate the course of events in most cases of coarctation and emphasize the importance of establishing the diagnosis before cardiac failure or extensive vascular changes develop that will prevent consideration of surgical intervention.

Coarctation of the aorta of the adult variety rarely causes any symptoms or signs that call attention to its presence during the early years

TABLE 1

DISTINGUISHING FEATURES OF INFANTILE AND ADULT TYPES OF COARCTATION OF THE AORTA (AFTER BONNET[11])

DISTINGUISHING FEATURES	COARCTATION, TYPE	
	INFANTILE	ADULT
Site of coarctation	Above ductus	At or below ductus
Ductus arteriosus	Open	Closed
Associated anomalies	Frequent and major	Rare and minor
Collateral circulation	Absent	Present
Age	Newborn or infants	Children or adults

of life. In few persons under 18 to 20 years of age has the lesion been recognized. In many instances the first evidence of abnormality has been the detection of elevation of the blood pressure during a routine physical examination required for employment, insurance, school, or the armed services during the war. If clinical symptoms are present they are usually fatigue, headache, blurred vision, ringing in the ears, legache, bouts of dizziness, and pain in the back and shoulders. The important fact about coarctation that I wish to emphasize above all else is that the examination of any patient found to have an elevation of blood pressure in the arm must include an examination of the abdomen for pulsation of the abdominal aorta and of the legs for pulsation of the femoral and popliteal arteries. The occurrence of a weak or absent pulsation in these regions and of strong pulsation in the vessels of the head, neck, and upper extremities together with elevation of the blood pressure in the arm is strong evidence that coarctation is present.

Further evidence of coarctation is the presence of extensive collateral circulation from the upper to the lower part of the body. This is most marked in the region between the shoulder blades where large, pulsating vessels may be palpable. There may even be a palpable thrill and audible bruits in this region. I should like to urge that the examination of children in particular include check of the blood pressure and examination for pulsation in the lower extremities. This examination is frequently neglected since it is usually assumed that children do not have hypertension. The diagnosis of coarctation in children is particularly important since they are obviously the most favorable candidates for successful operation.

Roentgenographic evidence of coarctation includes particularly notching of the ribs. This feature has been noted in children only 5 years old. The notching is most marked in the ribs of the upper posterior part of the thorax. The aortic bulb may appear small or it may be absent. There may be some widening of the ascending aorta but this is not constant. Roentgenoscopy may reveal rather marked pulsation of the superior mediastinal shadow. There is usually some rounding and enlargement of the left ventricle.[14]

There are many other methods of diagnosis available, such as angiocardiography, tomography, accurate determination of the intra-arterial blood pressure in the upper and lower extremities, and so forth. These procedures are of value in the careful preoperative study and evaluation of the condition but they are not necessary for establishment of the diagnosis.

I SHOULD like to emphasize again that the important procedures in diagnosis of coarctation are (1) to take the blood pressure in the arm as a part of the examination of every patient regardless of his complaint or age, (2) to consider the possibility of coarctation of the aorta in every patient who has elevation of blood pressure, particularly if the patient is young, (3) to examine the abdomen and legs for decreased or absent arterial pulsation, (4) to examine the area between the shoulder blades for evidence of collateral circulation, and (5) to make a roentgenologic study for confirmatory evidence in those cases in which

TABLE 2

COLLATERAL CIRCULATION IN COARCTATION OF THE AORTA[15]

SCAPULAR AND CERVICAL ANASTOMOSIS	a. Suprascapular and transversalis colli (from thyroid axis) b. Posterior scapular and superficial cervical (from transversalis colli) c. Long thoracic and subscapular with its dorsalis scapulae branch (from axillary artery)
INTERNAL MAMMARY ANASTOMOSIS	a. Superior epigastric with deep epigastric branches of the external iliac b. Musculophrenic with phrenic branches of the thoracic and abdominal aorta c. Mediastinal branches with mediastinal branches of the thoracic aorta d. Anterior intercostal with terminal branches of the aortic intercostal
INTERCOSTAL ANASTOMOSIS	a. Terminal branches with intercostal branches of the internal mammary b. Lateral branches with subscapular and long thoracic branches of the axillary artery c. Dorsal branches with the posterior scapular d. The first with the second intercostal (arising from the subclavian by the superior intercostal) e. Each intercostal with the intercostal arteries above and below
THE SPINAL ANASTOMOSES	The vertebral artery arising from the first part of the subclavian artery reinforces the spinal arteries in which the blood flows downward to reach the spinal branches of the aortic intercostal arteries. These pass through the intervertebral foramina. Also, branches from the inferior thyroid pass through the intervertebral foramina in the neck to join the spinal arteries.

coarctation is suspected. The diagnosis is not difficult. It can be made by methods available to all physicians.

I SHOULD like to call attention particularly to the fact that what is believed to be hypertension of pregnancy may be due to coarctation of the aorta. While males are more frequently afflicted with coarctation than females, the condition can occur in either sex. Some 39 cases of coarctation in pregnant women have been reported in the literature. A considerable number of these patients have died during pregnancy or labor from cerebral hemorrhages, ruptured aorta, or heart failure. The treatment of choice in such a case should be cesarean section at the onset of labor. The danger of allowing a woman with coarctation to go through a hard labor is obvious.

In coarctation of the aorta there is a most remarkable example of the extent of development of collateral circulation that is possible in the human body. In this condition the circulation of the lower part of the thorax, abdomen, and lower extremities must be supplied from vessels that arise from the arch of the aorta. An extensive study of this circulation has been made by Bramwell and Jones.[15] The main channels which they have described are listed in Table 2.

Much of the collateral circulation is exposed and many dilated vessels must be clamped and ligated when the posterolateral thoracic incision necessary in the surgical treatment of these lesions is made. The incision itself is a rather major and time-consuming procedure on this account.

The surgical treatment of coarctation of the aorta is a new development and the technic of the procedure is not established definitely as yet. At present it is believed that the operation is best performed through a posterolateral approach, with resection of a long segment of the fifth rib and additional posterior segments of the fourth and sixth ribs if necessary. In the adult type of coarctation under consideration, the stricture usually involves the aorta just distal to the point at which the left subclavian artery branches from the aorta. The site of stricture is readily apparent. The marked dilatation and tortuosity of the intercostal and internal mammary arteries is at once evident. The aorta above the stricture and the left sub-

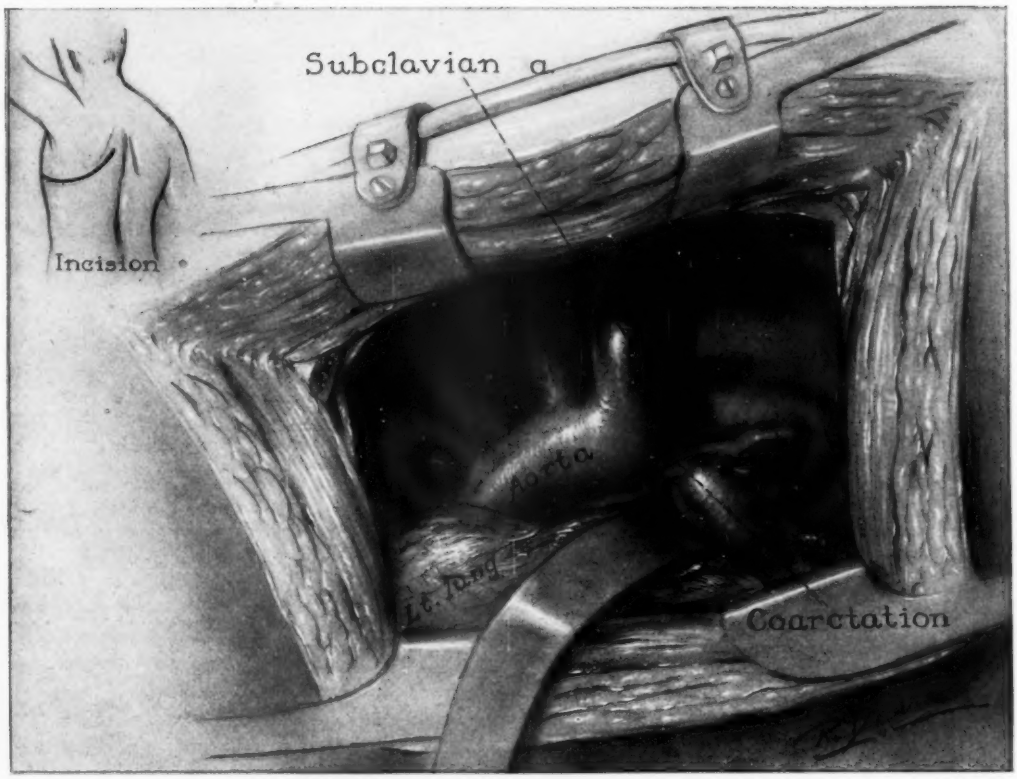

Figure 1. Exposure of coarctation of the aorta, showing enlarged intercostal vessels and stenosed area. The inset at upper left illustrates the operative incision.

clavian artery are larger than normal (Figure 1). The descending thoracic aorta is somewhat smaller than normal. The pleura over the aorta and subclavian artery is reflected and the mobilization of the aorta is initiated. This requires section and ligation of the first two pairs of intercostal arteries that come off the aorta distal to the stricture in most cases. These vessels are usually sclerotic and friable so that often this is one of the most difficult steps in the entire operation. There is usually a fibrotic band medial to the stricture that represents the obliterated ligamentum arteriosum. This must be severed.

After the aorta has been mobilized above and below the stricture, a decision must be made as to whether it is feasible to resect the strictured part (Figure 2) and perform end-to-end anastomosis of the aorta (Figure 3) or whether the location or extent of the stricture requires section of the aorta distal to the stricture and use of the subclavian artery for anastomosis. Obviously the former is preferable, but when such is not possible, at the clinic we have been able to use the left subclavian artery to good advantage. When the subclavian is used the aorta is ligated at the site of a stricture, a clamp is placed across the aorta distally and the aorta

is sectioned. The left subclavian artery is then mobilized, the distal end is ligated as high as possible without interfering with the internal mammary artery, the proximal end of the subclavian artery is rotated, and end-to-end anastomosis with the thoracic aorta is performed (Figure 4). Usually these vessels are approximately the same size.

The anastomosis is carried out with the aid of fine silk sutures on atraumatic needles, and the edges of the vessels are everted by a continuous mattress suture technic that brings intima to intima with a minimum of suture exposed in the lumen of the vessel. Clamping of the aorta for the time necessary for performance of the anastomosis is not a problem since the collateral circulation previously established as a result of the lesion provides adequate blood supply to the lower part of the body.

At the clinic we have had no difficulty with the left arm in those cases in which the left subclavian artery was used for anastomosis. Collateral circulation has been adequate. The left arm becomes cooler than the right and pulsation may not be palpable for some weeks but there has been no significant weakness or dysfunction of the arm resulting from the procedure. When the anastomosis has been completed the vessel is occluded between the fingers, and the clamps, first below and then above the site of anastomosis, are removed. The occlusion of the vessel is released gradually,[3] as advised by Gross, in order to avoid sudden heart failure from too rapid release of blood from the heart. In a few cases we have placed Gelfoam or oxidized cellulose around the site of anastomosis for additional protection against leakage. Pleura is then sutured over the site of anastomosis, the lung is inflated, and the thoracic wall is closed.

Immediately after opening the vessel at the site of anastomosis there has been a gratifying drop of blood pressure in the arm in most of our cases, and pulsation of the femoral vessels, which previously was absent, has become apparent. In a few of our cases the fall in blood pressure the first few days has not been remarkable but gradually the pressure has tapered off toward normal levels during the period of hospitalization. Patients are kept in bed seven to ten days and are kept in the hospital two to three weeks.

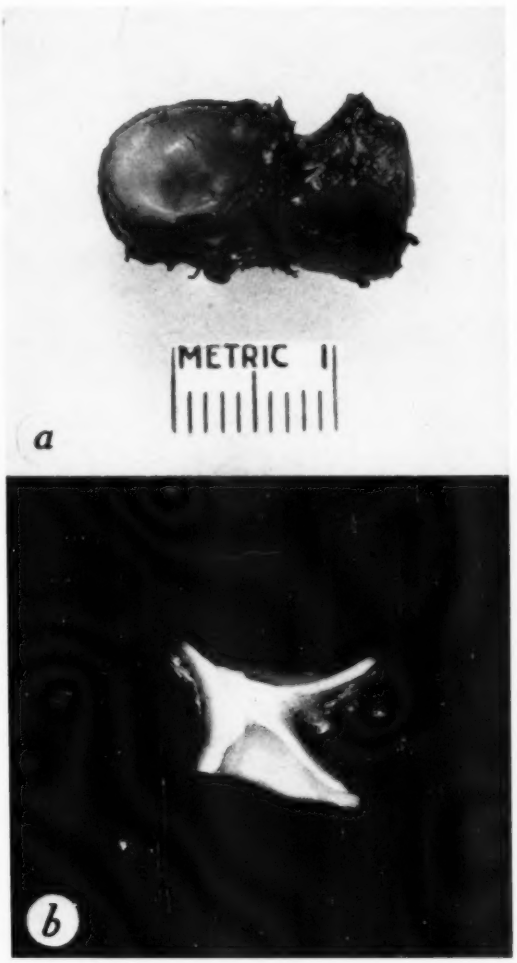

Figure 2*a*. Excised segment of the aorta; *b*, longitudinal section of excised portion of the aorta.

OUR series of cases is not large. It consists of 14 operations. There were 9 males and 5 females in this group. Their ages varied from

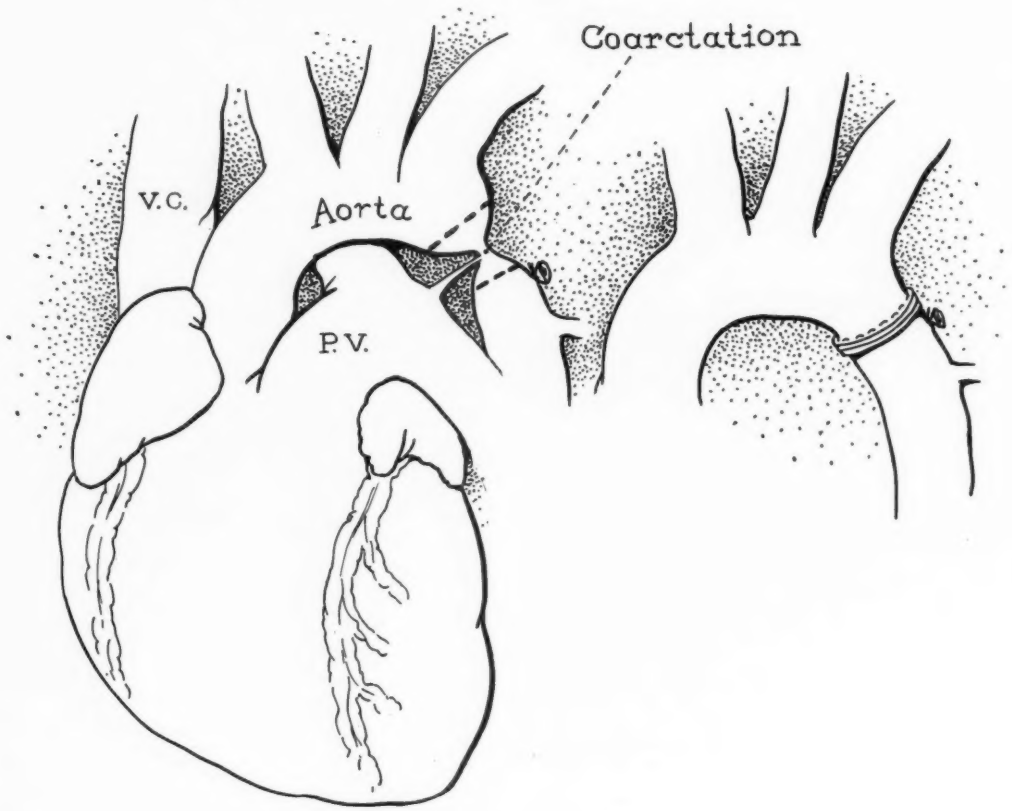

Figure 3. Left, diagrammatic representation of coarctation of the aorta; right, end-to-end anastomosis of the aorta.

11 to 34 years. In most of these cases there had been no symptoms which called attention to the abnormality until the patient had reached early adult life. The first indication in several was the finding of elevation of blood pressure during routine examination for employment, insurance, school, or the armed services during the war. In one case a diagnosis of hypertension of pregnancy was made when elevation of blood pressure was found during antepartum examination.

In half of the patients on whom we have performed operations at the clinic a diagnosis of essential hypertension had been made and the patients had been referred for sympathectomy. The systolic blood pressure in the arm in our patients varied from 200 to 250, expressed in millimeters of mercury. The blood pressure in the legs was low or unobtainable; notching of the ribs and reduced or absent aortic knob were present in all cases. On close questioning, symptoms of coarctation described previously could be elicited in all cases. One patient had had one bout of cardiac decompensation and one had had two episodes suggesting a minor cerebrovascular accident. Several complained of fatigue, headache, dizziness, and so forth.

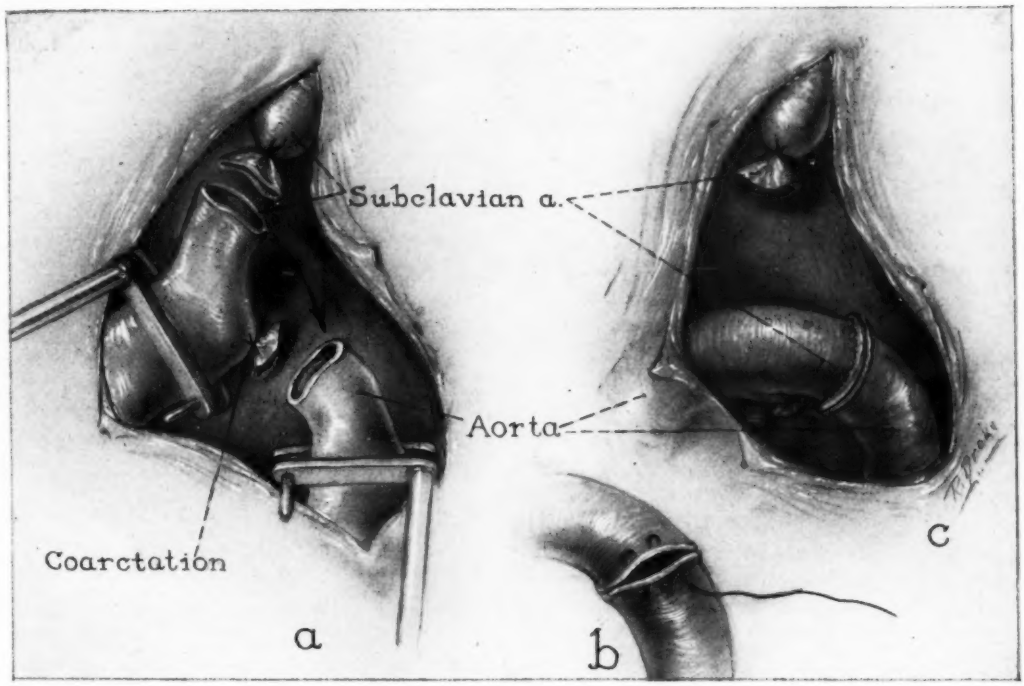

Figure 4. Method of ligation of coarctate portion of aorta; *b*, method of suturing; *c*, end-to-end anastomosis of the left subclavian artery and the aorta.

Four patients in our series died postoperatively. One had had cardiac failure previously and his death, two days after operation, was due to cardiac failure. The anastomosis at postmortem examination was intact. The second death occurred thirty-two days after operation from hemorrhage due to separation at the site of anastomosis. The third death was due to a leak at the anastomosis eight days after operation. The fourth death was due to cardiac failure at the time of operation. Three patients have not obtained satisfactory decrease of the blood pressure in the upper part of the body although the blood pressure and the amplitude of the arterial pulsations in the lower extremities have been definitely increased. These patients had extensive sclerotic changes in their blood vessels and in each case there was a long stricture which necessitated use of the subclavian artery. In each the thoracic aorta was much smaller than normal. Seven patients have gotten along very well and have been relieved of abnormal blood pressure and clinical symptoms. The results in these patients have been most encouraging.

It should be emphasized that the surgical treatment of coarctation is now in an experimental phase. Not enough patients have been operated upon and followed over a time long enough to permit accurate evaluation of the results. It may be that the vascular changes resulting from prolonged hypertension may be so severe that these patients will suffer from these vascular changes in the future. There may still be danger of cerebrovascular accidents and so forth. If the diagnosis of coarcta-

tion can be established before extensive vascular changes have developed, the results from operation should be a great deal better. Therein lies the responsibility of the medical profession to make early diagnosis of this condition. In any event, restoration of a more normal circulation and a better balance of blood flow to all parts of the body should be of benefit.

The indications for and contraindications to operation in these cases at present are not clear cut. At present I believe operation should be considered for all patients who have evidence of severe coarctation regardless of age provided their general condition will permit an operation of this magnitude. I do not believe that patients who have already had heart failure or cerebrovascular accidents will benefit from operation sufficiently to justify the risk of surgical intervention. In general, the younger the patient the better the candidate for operation.

In conclusion, I should like to emphasize that coarctation is not as uncommon as is generally supposed. As has been pointed out, the diagnosis of coarctation is not difficult and does not require any equipment that is not available generally. The experience with surgical treatment of coarctation, while not extensive, is most encouraging.

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WOOLSEY APPOINTED SLICHTER RESEARCH PROFESSOR AT WISCONSIN

Dr. Clinton N. Woolsey of the Johns Hopkins University School of Medicine has been appointed to the recently created Chair, the Slichter Research Professorship of Physiology at the University of Wisconsin Medical School, according to an announcement made by Dr. William S. Middleton, Dean of the Wisconsin school.

Dr. Woolsey graduated from the Johns Hopkins School of Medicine in 1933 and has devoted himself to the field of physiology and neurophysiology at that institution since that time. He was Associate Professor of Physiology at the time of the present appointment to Wisconsin.

Dr. Woolsey's particular area of investigation has been the field of neurologic research in physiology, and he will continue his studies in the field of neurophysiology at the University of Wisconsin Medical School.

The Wisconsin Alumni Research Foundation established the Charles Sumner Slichter Research Professorship in the Natural Sciences in memory of the late Professor Charles Sumner Slichter. Dr. Woolsey is the first appointee to that Chair.

The Stuffy Nose

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HENRY FORD HOSPITAL, DETROIT

THE SYMPTOM of a stuffy nose, which has always been a problem, still continues to plague us. I say a problem, for witness the number of patients who consult one physician after another attempting to find relief, only to turn to self-medication or neglect. Witness too the amount of nasal drops, sprays, and drugs such as benadryl and pyribenzamine, which have been prescribed by physicians and sold over the drugstore counters in the hope of obtaining a cure.

A stuffy nose, uncomplicated, requires much investigation before the diagnosis may be made. Unfortunately, it is too often a complex condition involving several diagnoses, calling for skill, judgment, and the combined efforts of the family physician, the rhinologist, and the allergist. The treatment may be rather lengthy and often may have to be revised or entirely changed. Each patient must be fully cognizant of the regimen to be followed so that the fullest cooperation may be obtained, and the treatment completed without interruption.

A person who presents himself to us with a stuffy nose often complains of a continuous or recurrent head cold, sinus trouble, a blocked nose, or inability to breathe. These symptoms may be seasonal or perennial, and may vary from week to week, day to day, and often from hour to hour. Many such patients have a dull frontal headache, pains across the bridge of the nose, sneezing, and coughing. Many also state that they cannot blow anything out of the nose, but have an excessive discharge in the throat.

The question arises as to what we can do for these people and how we may undertake treatment to produce relief of their symptoms. In the beginning, a careful general physical examination must be given to each person. In an increasing number of instances allergy studies are required. Occasionally consultation with an allergist or psychiatrist may be necessary.

There are many underlying factors which must be considered before a diagnosis can be made. Briefly, I would like to enumerate and to comment on the more important causes and types of stuffy nose (these, however, are not arranged in the order of their importance): (1) adenoids, (2) sinusitis, (3) deflected nasal septum, (4) allergic rhinitis, (5) vasomotor rhinitis, and (6) irritative rhinitis.

ADENOIDS

Adenoids are present in the nasopharynx of practically every child and not infrequently in

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the nasopharynx of the adult. This chronically infected mass of tissue not only produces an obstruction but also becomes a constant source of infection. In many children this adenoid tissue has a tendency to recur, even after an operation with what was felt to be a thorough removal of this tissue. Not infrequently an adenoidectomy has been only a partial removal, with a mass of adenoid tissue left high in the nasopharynx.

In this type a mother frequently brings in her child with a "runny" nose and an open mouth, complaining that he has a stopped-up or a stuffy nose not relieved by blowing. Often only a slight amount of discharge is obtained on blowing the nose. These children may have a dry and irritating cough.

Nasal examination discloses a discharge, either mucoid or mucopurulent, lying along the floor, a congested mucous membrane, and a nasopharynx almost completely filled with adenoid tissue. A nasopharyngoscope will show this adenoid tissue to be bathed in a discharge of the same type as that seen in the nose. Occasionally one sees a nasal mucous membrane which is pale and edematous and resembles that seen in the late stage of an allergy.

Complete removal of this adenoid tissue under general anesthesia relieves the obstruction and banishes a focus of chronic infection with rapid restoration of nasal function.

SINUSITIS

Sinusitis should present no difficulty in either the acute or the chronic cases. Patients with a sinus infection have a stuffy or a blocked nose, a purulent nasal and postnasal discharge, and frequently a cough. The acute infection occurs during a head cold or following a tooth extraction, with accompanying pain or ache over the involved sinus, and an elevation of temperature. The nasal mucous membrane is acutely red, swollen, and congested, and the nose is filled with a purulent discharge. The involved sinuses are tender on pressure, dark on transillumination, and cloudy on x-ray. With suction, pus can often be traced to the orifice of the sinus, and with a nasopharyngoscope pus can be seen coming from the involved sinus.

Chronic sinusitis presents more or less the same signs and symptoms as seen in the acute cases; lacking are the acute signs of pain, tenderness, and elevation of temperature. Contrary to popular opinion, headache is rarely a symptom of an uncomplicated chronic infection of a sinus. The origin of the pus in the nose should always be determined by a nasopharyngoscopic examination.

TREATMENT in both chronic and acute sinusitis should be adequate to eradicate all infection completely. In acute cases we advise rest, plenty of fluids, heat to the affected areas (hot compresses, Simms' light, or infrared lamp), codeine for relief of pain, sulfa, penicillin, or both in adequate dosage, and irrigation of the involved sinus only when the infection fails to respond during the second or third week. In chronic sinusitis treatment should be decided only after a thorough investigation, preferably

by a specialist. Sulfa therapy and penicillin have been disappointing. Surgery still remains the method of choice to eradicate a long-standing chronic sinusitis.

DEFLECTED NASAL SEPTUM

Deflected nasal septum may produce a unilateral or bilateral stuffiness depending upon degree, type, and location of the deflection. Not infrequently the nasal stuffiness is more marked on the side opposite the deflection; in the early stages this is due to excessive ventilation and in the later stages to hypertrophy of the mucous membrane, particularly of the turbinates. These patients seldom have an excessive nasal discharge, but generally have an accompanying postnasal discharge and complain of stuffiness not relieved by blowing.

The diagnosis should present no difficulty. An operation removing the septal deflection as well as the hypertrophy of the mucous membrane should result in complete relief.

ALLERGIC RHINITIS

Allergy is perhaps the commonest cause of a stuffy nose, since we recognize that it may produce perennial as well as seasonal symptoms. The symptoms of allergic rhinitis vary markedly, but it is surprising how these symptoms, after a thorough and careful history, do fit into their niche. We recognize that there may be many allergens—pollens, foods, cosmetics, animal hair, house dust, bacteria, cold, and heat. Physical allergy such as that due to cold and heat must be recognized: sudden changes of temperature appear to be the precipitating factors, as is noted occasionally when a person steps out of a hot shower into a cold room.

These patients complain of sneezing, dull frontal headaches, often a stuffy feeling in their ears, a stuffy nose, and an excessive, clear, watery discharge which stains, rather than fills, several handkerchiefs daily. The nasal mucous membrane is reddened and congested. In my opinion, it cannot be distinguished from that seen in an acute infection, except in the late stages, when the mucous membrane becomes pale and edematous, and fails to shrink with a vasoconstrictor. On cytologic examination the discharge, usually clear and mucoid, is found to contain a high percentage of eosinophils.

In many instances the diagnosis can readily be made, but with all patients the diagnosis should rest on a careful evaluation of all the data obtained after a critical history, including an allergy history, a complete examination of the ears, nose, throat, and sinuses, a complete allergy study including skin tests, and microscopic examinations of the nasal discharge.

Treatment should comprise elimination, substitution, and immunization; special diet, food substitution, and injections of specific sera. In special cases, as in those with a sensitivity to house dust, it may be necessary to go into the home to determine the cause, and to gather dust in order to carry out specific treatment. Vaccines, made from the specific strains of bacteria to which the person is sensitive, should be tried. These vaccines have produced successful results in many patients, especially children.

A definite regimen of specific allergic treatment should be instituted, altered as the reactions and results demand. The first injection should be a greatly diluted dose, increased gradually at four-to-seven-day intervals until the maximum dosage is reached. The maximum dosage should be sufficiently great to relieve the symptoms completely. Injections of this maximum dosage are made at lengthened intervals, until the injections are given monthly and then continued for a period of four to five years.

Benadryl and other allied drugs may be tried orally. In the majority of patients these drugs give relief, and for this reason they may be used as a diagnostic aid. These drugs should not be continued indefinitely and should never replace specific treatment.

VASOMOTOR RHINITIS

Vasomotor rhinitis is indistinguishable from allergic rhinitis in the signs and symptoms it

produces. The diagnosis of this type of a stuffy nose rests upon the history.

It often results from endocrine disturbances and emotional upsets and is seen at puberty, during pregnancy, and, occasionally, during the menopause. Vasomotor rhinitis appears to have increased during the past few years; possibly the war, its uncertainties and stress, particularly upon women, has resulted in a great deal of emotional instability.

Treatment should be directed to relieve the primary cause. In indicated cases thyroid extract has proven beneficial; a psychiatrist can help those people with functional and emotional disturbances. The stuffy nose usually associated with pregnancy generally clears when the pregnancy is terminated.

IRRITATIVE RHINITIS

There are those patients who fail to fit into the previous classifications or who may fail to respond to the treatment indicated in cases of allergic or vasomotor rhinitis. These may be classified as cases of irritative rhinitis. Symptoms are caused by irritation from dust, dampness, cold, or excessive medication. It is true that cold and dust produce an allergic rhinitis, but they may also produce an irritative reaction on the nasal mucous membrane which will fail to respond to any allergic treatment. Consider the person who on moving from the farm to a near-by city develops, for the first time, a stuffy nose, or the butcher whose nasal stuffiness occurs only at work, where there is a sudden temperature change involved in stepping in and out of a refrigerator. Consider also the number of people who persistently use nasal drops or sprays in an unsuccessful attempt at relieving their nasal stuffiness.

Treatment here consists of finding the cause and attempting to remove it. Discontinuing nasal drops frequently produces complete relief; a change of occupation, and occasionally a change of environment, may be necessary.

CONCLUSION

Each of these various types of stuffy nose mentioned presents characteristics which should label it. In many cases the diagnoses become self-evident after a careful history has been obtained and after a thorough examination has been made. Other patients require much study, repeated examinations, and consultations, and the diagnosis may only be proved after a trial of treatment.

Unfortunately, too many patients present the picture of a combination of these various types —an allergy and a sinus infection; a deflected septum, vasomotor rhinitis, and a sinus infection; adenoids and an allergy. These various coexisting conditions must be recognized and each treated individually and collectively. Adenoids must be removed, a deflected septum corrected, and a sinus infection adequately cleared either by treatment or by operation or by both. It is estimated by various authors that allergy may be the underlying factor in as high as 90 per cent of all sinus infections. This must be determined in each individual patient and adequate treatment given. Allergic treatment will improve the existing nasal stuffiness, but infection of the sinuses must be eradicated.

It is our duty as physicians to understand the many factors which may coexist in the production of a stuffy nose. Our treatment must be a planned, individual therapy which, I believe, should be discussed fully with the patient. A comprehensive study of each patient and the use of all the means at our disposal will result in a marked relief of symptoms in the majority of patients. If we do produce results, we need not be concerned whether or not we produce in the patient an immunization, a desensitization, or a refractory state.

Hemorrhage at Time of Delivery

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HEMORRHAGE is the most frequent cause of maternal death, and a common contributor to puerperal death due to other causes. And death at the time of delivery is more often due to hemorrhage than to any other factor. Partly for these reasons, but largely because so much may be done about it, hemorrhage is the most important cause of maternal death at the time of delivery.

By its very nature delivery is associated with blood loss whether from the placental site or from the birth canal. The distinction between this commonplace bleeding and hemorrhage may be the difference between life and death. Under some conditions even comparatively slight loss of blood may cause death, yet women often survive the loss of a large amount. They may succumb to infection some time later, or they may actually appear to be none the worse for it. It is exactly this rather common experience which accounts for the all too frequent failure of the obstetrician to provide for blood replacement and to become alarmed in good time.

A complacent easygoing feeling about parturition as a function that is most likely to be normal is responsible for considerable mortality due to hemorrhage at the time of delivery. No function of the human body other than parturition is associated with hemorrhage and permanent tissue damage.

It is not necessary to discuss all the circumstances and accidents which contribute to hemorrhage at the time of delivery. Even spontaneous delivery may be followed by great loss of blood. Bare mention of some causes will suffice to indicate the problem—prolonged labor, placenta previa and abruptio, atony, rupture and inversion of the uterus, forceps delivery, version, and cesarean section. Analgesia and anesthesia, particularly ether, are important contributory factors.

Placental stage hemorrhage is often the result of uterine atony or thoughtless interference with the mechanism of placental separation. Undue blood loss should not be tolerated, nor should we allow the uterus to fill with blood while the free placenta is retained. Effort to express a placenta, whether it is partially or wholly separated, should not be prolonged if hemorrhage is brisk. Its manual removal, provided gloves have been changed and the outside field is clean, is not nearly as dangerous as procrastination, for risk increases with delay.

Careful examination of the placenta is an excellent routine which will take but a moment.

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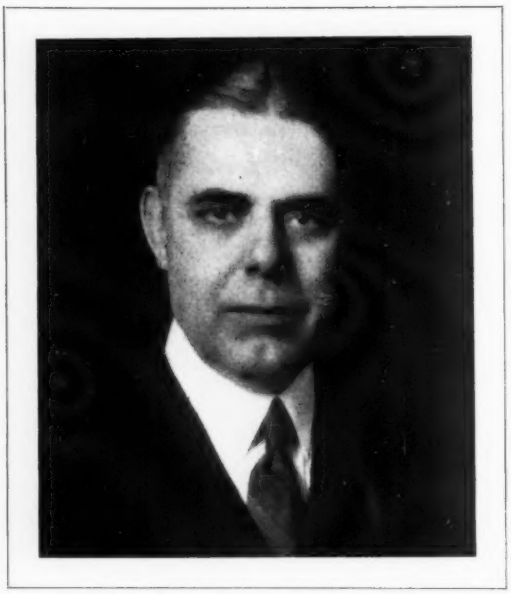

CHARLES A. GORDON

Though not consistently practiced during the course of cesarean section, here it is no less important and perhaps more so. If bleeding continues, its source may be found in the birth canal, and perhaps it will be necessary to draw down the cervix with sponge forceps. In any case, when uterine contraction is not well maintained, even though the placenta may have appeared to be intact, exploration of the uterine cavity should be prompt.

For an atonic empty uterus, the uterine pack may not be depended upon. If used at all, it should not be repeated, and decision to perform hysterectomy should be reached at this point. It should be obvious that transfusions of blood, no matter how large, will not save life if hemorrhage is allowed to continue. It is far more important to stop blood loss than to replace it.

It is well to keep in mind that rupture of the uterus accounts for about 6 per cent of our maternal deaths. Generally thought to be a rare accident, it surpasses ectopic gestation as a cause of death. Curiously, traumatic rupture in the course of version or instrumental delivery fails of diagnosis in more than half of the cases, since the hemorrhage and shock associated with it are commonly attributed to embolism, to cardiac failure, or simply to the trauma of the operative procedure itself.

The uterus should be explored after every version and whenever shock after forceps delivery appears to be out of proportion to blood loss. Exploration should be painstaking, not perfunctory, for incomplete tears and rupture of the anterior wall may be missed. Although it may appear to be safer to await recovery from shock before laparotomy for rupture of the uterus, operation, supported by transfusion, of course, should be prompt.

Every physician knows that lost blood should be replaced, yet a complacent attitude toward hemorrhage and a hope that bleeding will stop lead to the administration of pitifully small amounts, or none at all, or use of substitutes that are nearly or wholly ineffective. Women in severe shock due to hemorrhage can be resuscitated only by whole blood, since reduction of their blood volume is due to loss of whole blood, not plasma alone. If shock continues long enough, no amount of transfused blood will save them.

Plasma is but a sop to conscience and a sacrifice to convention when hemorrhage has been great. Not only does it have definite limitations, but, as a matter of fact, pooled plasma, so easily obtained at present, should not be used at all by obstetricians, since the risk of homologous serum jaundice is considerable.

The importance of whole blood transfusion cannot be overstated. Large amounts are often necessary, and the sooner blood is administered, the better. Speed during its actual administration is often vital. Several portals may be used at once, and when veins fail or cutdown is time-consuming or unsuccessful, the sternal route should be employed.

Shock may follow hemorrhage. Dehydration, long labor, and anesthesia will make significant contributions, and will often precipitate shock

when blood loss alone would not have done so. The best way to treat shock is to prevent it. Low blood pressure is not an early symptom, but slight decline in the systolic level is of great importance. Acceleration of the pulse is significant, but diminution in pulse volume is the earliest available clinical evidence of shock.

Saline and dextrose solutions are valuable in prevention of shock, yet they are not only ineffective but dangerous when shock has been established. Aqueous solutions will not be retained in the blood stream if plasma colloids are insufficient to maintain volume. Postponement of blood transfusion is serious. Morphine and oxygen are helpful. Adrenalin is futile, perhaps harmful. All cardiac stimulants are contraindicated, since shock is not of cardiac origin.

Suitable blood must be available on the delivery floor, otherwise the lying-in hospital is not a safe place for delivery. And at that time the obstetrician must be ever mindful of the possibility of hemorrhage, aware that at any moment he may have to thrust routine aside and prove himself.

MULTIPLE MOTHERHOOD

The naive logic of the Dark Ages viewed multiple motherhood with moral abhorrence. Superstition ascribed to each child a different father. Thus, twins, triplets, etc., automatically branded a mother as a creature guilty of carnal waywardness.

Birth of Quintuplets. Water color by unknown Dutch artist. Quins and ballyhoo—200 years ago! Five children were born to the wife of a Dutch peasant in 1719 . . . and an unknown native artist immediately recorded the event for posterity. We see here the surprised father's first glance at the new arrivals. Four of the children died soon after but were not interred for several weeks due to the universal interest that forced the parents to exhibit the quins at a profit.

From: The Bettmann Archive

DIAGNOSTIC CLINIC

Major Defects of the Face and Their Surgical Repair

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IN CARING for a large volume of patients who need repair of major facial injuries, one of the things we think of is something we are all candidates for, and every member of our families is too—and that is a bad automobile wreck. This might lead to some feeling of the Golden Rule in our basic approach to the problems of each patient.

One fundamental is that almost unbelievably good results can be obtained if there can be prompt evacuation. These patients should be put back together at the earliest possible moment if they can possibly be gotten into the hospital. A few things that delay early operation are lack of evacuation or transportation to a place where they can be cared for; too much general shock, too much brain damage, a broken neck, in which instance too much manipulation may be harmful. Of course, if intoxicated, the patients are not done immediately, and if it is a child and the stomach is full of food or it has just eaten, it is preferable not to get vomitus, which is bound to occur, over the operating field. Otherwise, with prompt evacuation, getting up in the middle of the night if necessary to do the work, the best results are obtained.

The boy in Figure 1 has extensive avulsion of the nose and about the lids and cheeks. Almost immediate operation has resulted in saving the distorted features and giving him his restoration in a single operative procedure. The natural protection of the eyeball, which is an intact lid, should be replaced in these patients immediately. It is miraculous how extensively faces can be destroyed without loss of vision. If the proper protection of the lids is restored promptly the vision is preserved, but if the lids are left away from the globes serious corneal damage often results.

Two things may be mentioned, predicated on the fact that the face does not develop primary gas gangrene. In the first World War there was the recommendation of doing cutting débridements on all wounds; and in World War II—at least the first part of it—there was an idea of packing all wounds open. These two proposals were based on prevention of gas gangrene, but since the face does not develop it, neither of these procedures has much

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This paper was prepared from the transcribed notes of a diagnostic clinic given by one of us (J. B. B.) at the St. Louis Assembly of the Interstate Postgraduate Medical Association of North America, October 14 to 17, 1947. It is a summary, given in thirty minutes, of salient points in the care of these severely injured patients. Specific lesions such as the support of bones in general cannot be covered in detail.

Figure 1. Traffic accident. Extreme tearing and displacement of soft parts, repaired in single operation. Immediate evacuation and prompt closure of wound may give normal contour and function, whereas secondary reconstruction may require multiple operations and not give as good final result.

application in the face (or in the hand). Certainly if a cutting débridement had been done on the boy's face in Figure 1 or if it had been packed open he would have required twenty to thirty operations to get anything as favorable as the result with his one immediate operation, and even then the flap repairs that would have been required would not be as smooth as the saving and replacement of the original local features.

Débridements of facial wounds are done, of course, but they consist of taking out gross dirt, getting the area as clean as possible, and removing hopelessly devitalized tissue. In trying to restore such damaged faces it can be said that "it is usually better to leave in some tissue that may die than to cut away some part that might live." The reason for doing this is that features themselves are being dealt with and general rules of débridement such as are applicable to the lower extremities simply do not fit in with the problem of salvaging the face.

PUTTING the displaced features, flaps, angles, and bones back together involves careful sorting of parts, usually starting at some known margin or landmark for the fixation—picking out the lip or nostril, or eyelid border. If these landmarks are not made out, then correct fitting of a gross tear can be the start; following this bisecting the open areas with suture may tend to prevent final distortion, rather than closing right down a tear from one end to the other.

A *pressure fixation dressing,* using cotton surgical (or mechanic) waste, is one of the fundamentals of care, as important as the procedures of the operation. It is interesting that the first recorded use of pressure dressings was as far back as the hieroglyphics and was recommended for wounds of the face.

Another important element of early transportation is the control of hemorrhage, and getting it stopped before transportation. The patient in Figure 2 is literally bleeding to death in his own tissues. His wound has been closed but the local points of hemorrhage have not been stopped, and his wound is ballooned full of blood, there is pressure on his airway and it is apt to be occluded. It seems definite that hemorrhage should be controlled locally, that is, down in the wound where it is occurring. Ligation of neck vessels probably does enough

good to do it except in relatively few instances. This may differ from ideas expressed elsewhere, but if there were 100 patients who might possibly be considered for a neck vessel ligation, perhaps more damage would be done by doing all 100 of them than if none at all were done.

This patient's wound needs to be opened promptly and the bleeding points clamped, and ligated if possible. If the vessels cannot be ligated the clamps can be left in the wound and a dressing put on over and around them. Patients have been returned to the ward after operation with as many as 18 clamps left in place, surrounded by the pressure fixation dressing.

This man (Figure 2) has to have his hemorrhage controlled by opening the wound, and at the same time his face is opened the bones can be put back together. The lower jaw is shattered in about 12 pieces, and part of it is down in the neck. In this type of bone displacement it is still better to leave something in that might die than to cut out something that might live. There is just not any extra tissue in the face in these instances to allow for wide cutting débridements. Hopelessly detached flaps and chips of bone are of course removed, and this is most important around the alveoli and tooth sockets.

This patient's jaw was put back together after the bleeding was controlled, and the soft tissues were accurately closed with drainage. It looks like a crude procedure, but it has thrust his jaw forward and put his teeth back together and stabilized his jaw. This is an excellent instance of early evacuation, prompt control of hemorrhage, promptly putting the face back together, and putting on a pressure fixation dressing. This man has been able to assume his position as a minister following this one single operative procedure. If this had not been done he would undoubtedly have needed a bone graft, plus skin graft lining put back into his mouth, necessitating multiple operations and long hospitalization.

The patient in Figure 3 illustrates the most direct method of putting in the bone graft. The graft itself is used for the splint so that no external appliance is used. Dental wiring and dental appliances are used on the inside when necessary or possible, but when firm wiring on both ends can be done the graft itself constitutes a splint because it is wired in so firmly that no further movement of the jaw occurs. Whatever teeth remain are locked in their normal position with interdental wires.

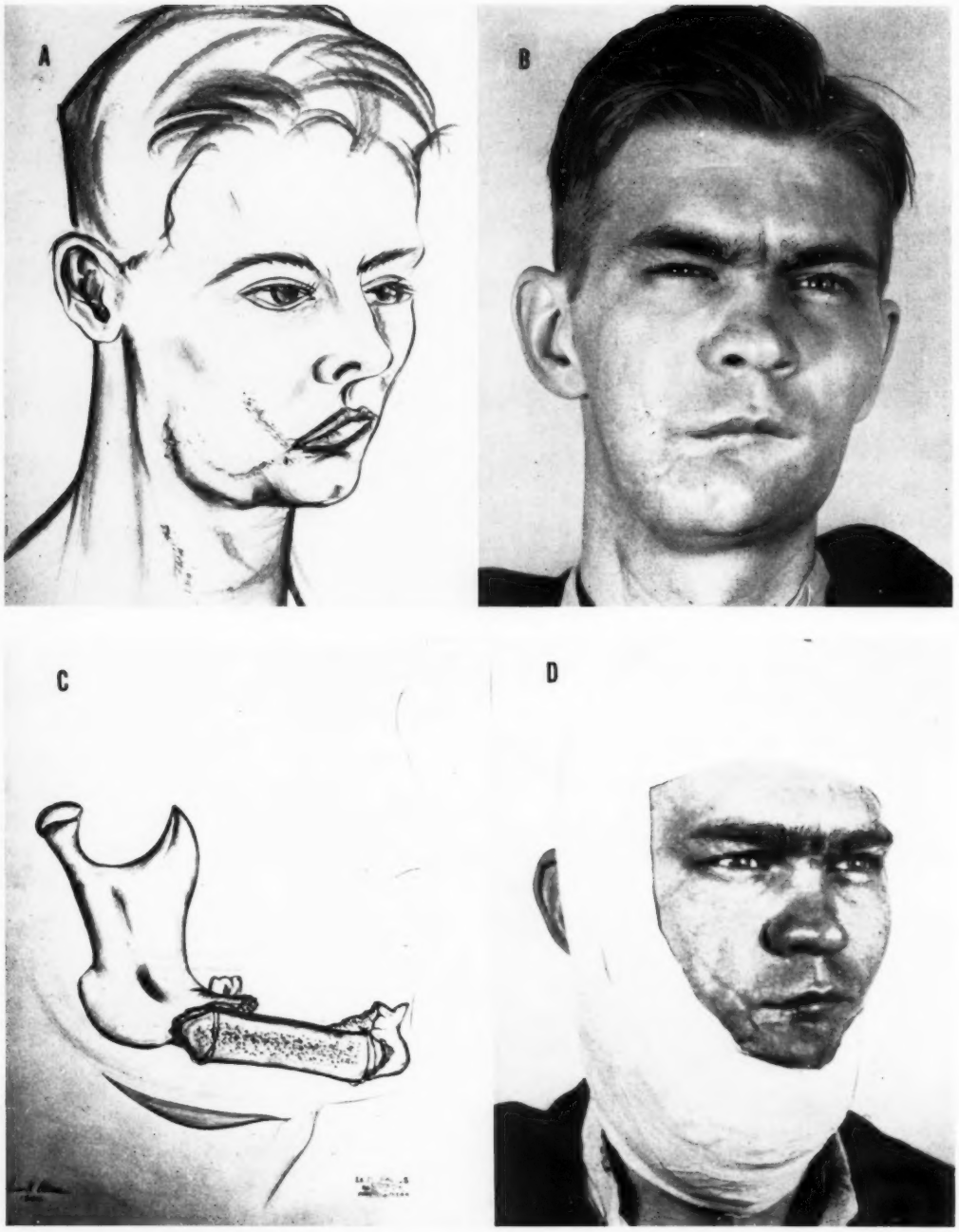
ON THIS patient is shown what is done on every patient. It is a pressure fixation dressing, and it is one of the most important steps of the entire operation. The pressure is finally obtained with the rolls of bandage and adhesive fixation, but the medium of pressure which gives a firm fixation is surgical waste incorporated in the dressing. (This waste is better than regular mechanic waste and is supplied by C. G. Walworth, Philadelphia.)

The patient is shown with the lining of his mouth having been made with a skin graft from the skin of his leg, a graft in his jaw, and a new set of teeth.

The patient in Figure 4 is a doctor who had his jaw shot away and his chin opened completely so that all his saliva drained out on his chest. He is shown to illustrate the use of all local tissue possible. The *sine qua non* of plastic surgery is to be able to put in new tissue, but whenever possible, what is locally available is used. A large flap for repair is not resorted to because it is felt that there is enough tissue

Figures 2*a* and *b*. Traffic accident. Patient with extensive shattering of bone and in extremis from blocked airway due to hemorrhage into wound, the edges of which have been closed. Prompt opening and local control of the bleeding is necessary. *f* and *g*. X-rays show extensive displacement of bone with immediate replacement and fixation at time of operation. Final view shows jaw with normal length and solidity. *c, d* and *e*. Final result obtained in the single operation with patient able to carry on duties as a minister. Delayed or secondary reconstruction would have required several operations including bone grafts. ⟶

Figure 2.



Figures 3*a* and *b*. Gunshot injury. Extensive loss of substance including bone and lining of mouth. Patient seen after several weeks. Sequestrectomies skin graft for lining of mouth and bone graft necessary for reconstruction. *c* and *d*. Detail of bone graft, wired in place to form its own splinting, plus fixation of remaining teeth. Detail of fixation-pressure dressing using cotton surgical waste as the medium of pressure.

Figures *4a* and *b*. Loss of substance of jaw and soft tissues permitting saliva to drain out on chest. Mobilization of local flaps and repair in one operation so salivary flow goes back into mouth. Bone support done at secondary operation, as the soft tissues on the outside have to be restored before the support has a place to go.

available for the closure, and in just one operation under local anesthesia the mouth is watertight, the saliva is going back down the patient's mouth, and he is ready to have his bone graft put in.

The man in Figure 5 is one who needs new tissue brought in for replacement of a gross loss. The first problem is to mobilize his tongue; it is shown fixed out on his neck, and he can't move it. He also has had to have a tracheotomy and a gastrostomy.

One of the problems to be realized is that these people are still individuals; this patient has a wife and a fine little boy at home and, without too much preachment, we feel that the doctor-patient relationship in these instances is as important as in any other branch of medicine or surgery. We do not know how a service can exist without starting down on that level and using some essence of the Golden Rule.

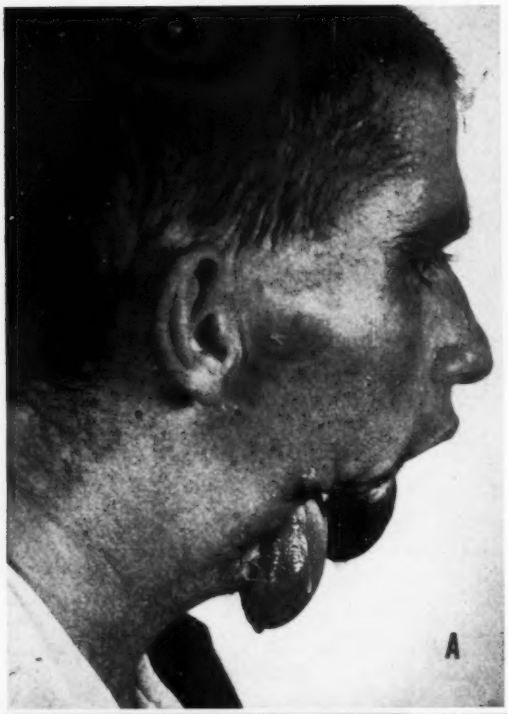
The tongue has been mobilized with a free skin graft off the neck placed under it so that it can be moved. A delayed flat flap across his chest has been prepared with skin from above the clavicle tucked down underneath the flap to form the new lining of the mouth when it is put up.

All local tissues have been used including a large piece of displaced lip. When the flap is raised for use and is found to be satisfactory, the new defect is recreated; it is necessary to go back and do practically the same thing the missile did—open up all the tissues and recreate the defect. The parts have to be dissected back to their relatively normal positions to let the flap in, rather than pulling them together at this stage.

The chest is grafted by a different operating team, so the patient winds up with a closed wound instead of a large open area on his chest. The lining of the mouth is made by a turned in flap lining the main one.

The whole jaw from ramus to ramus has been put in by another single operation using a bent single piece of rib or formed piece of ileum. The plastic surgeon often has to build backwards—the outside has to be made before the support is put in. An architect would think this was impossible but a jaw bone can't be put in place when there is no place to put it, or no covering for it.

Figure 5c shows the patient ready to go back home. The work can be improved, but the patient is still an individual and he still needs all these elements of a face just as much as if he had never lost them. Although this patient does



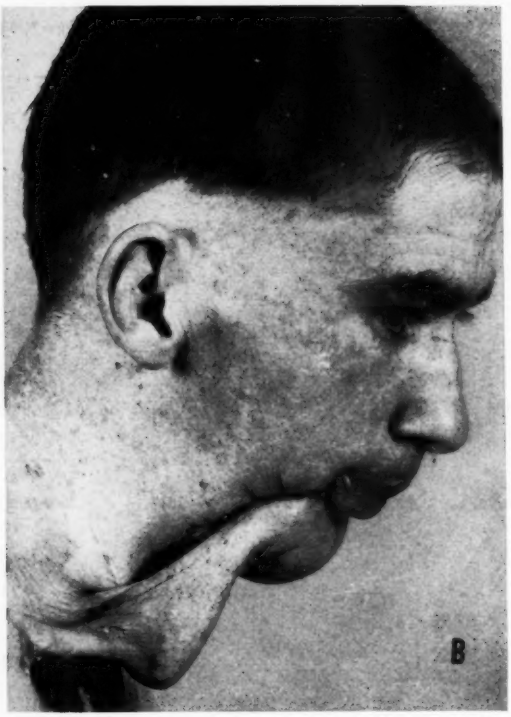


Figure 5. Details of extensive replacement of soft tissues and bone in multiple stage procedures, as outlined in text. (From Brown, J. B., and Cannon, Bradford: Repair of major facial injuries. Ann. Surg. 126:624-632 [October] 1947.)

not have any kinesis in his reconstructed area except what he produces by the upper part of his face, his jaw is forward and he can go on and again assume his way in life.

THE PATIENT in Figure 6 is shown with the replacement in one single operation of the entire ala of the nose with what we have called a "composite graft" from the ear, that is, two surfaces of skin with the intervening cartilage. The repair is more adequate than any other type, and the saving to the patient of from three to ten operations by getting it done in one operation is another big item.

Figure 7 shows a little of the technic. The dissection of the wound has to go back to an

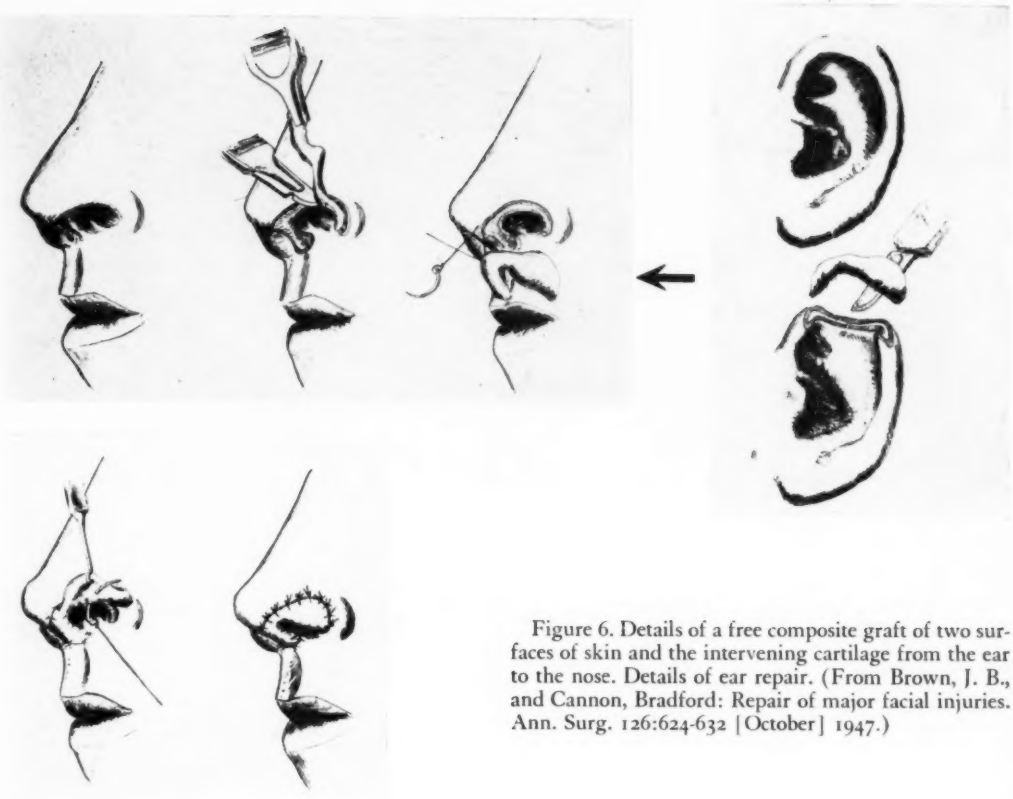
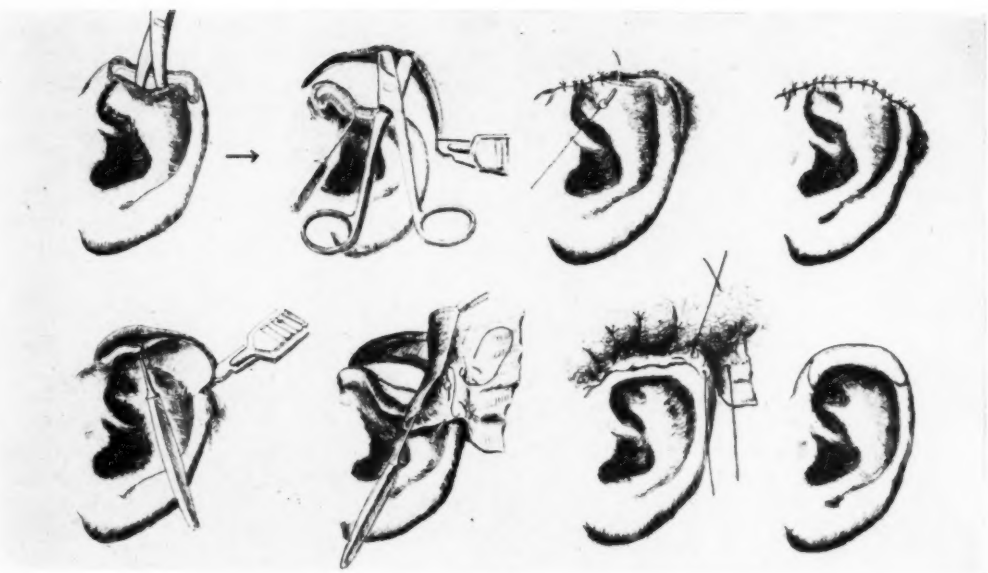


Figure 6. Details of a free composite graft of two surfaces of skin and the intervening cartilage from the ear to the nose. Details of ear repair. (From Brown, J. B., and Cannon, Bradford: Repair of major facial injuries. Ann. Surg. 126:624-632 [October] 1947.)



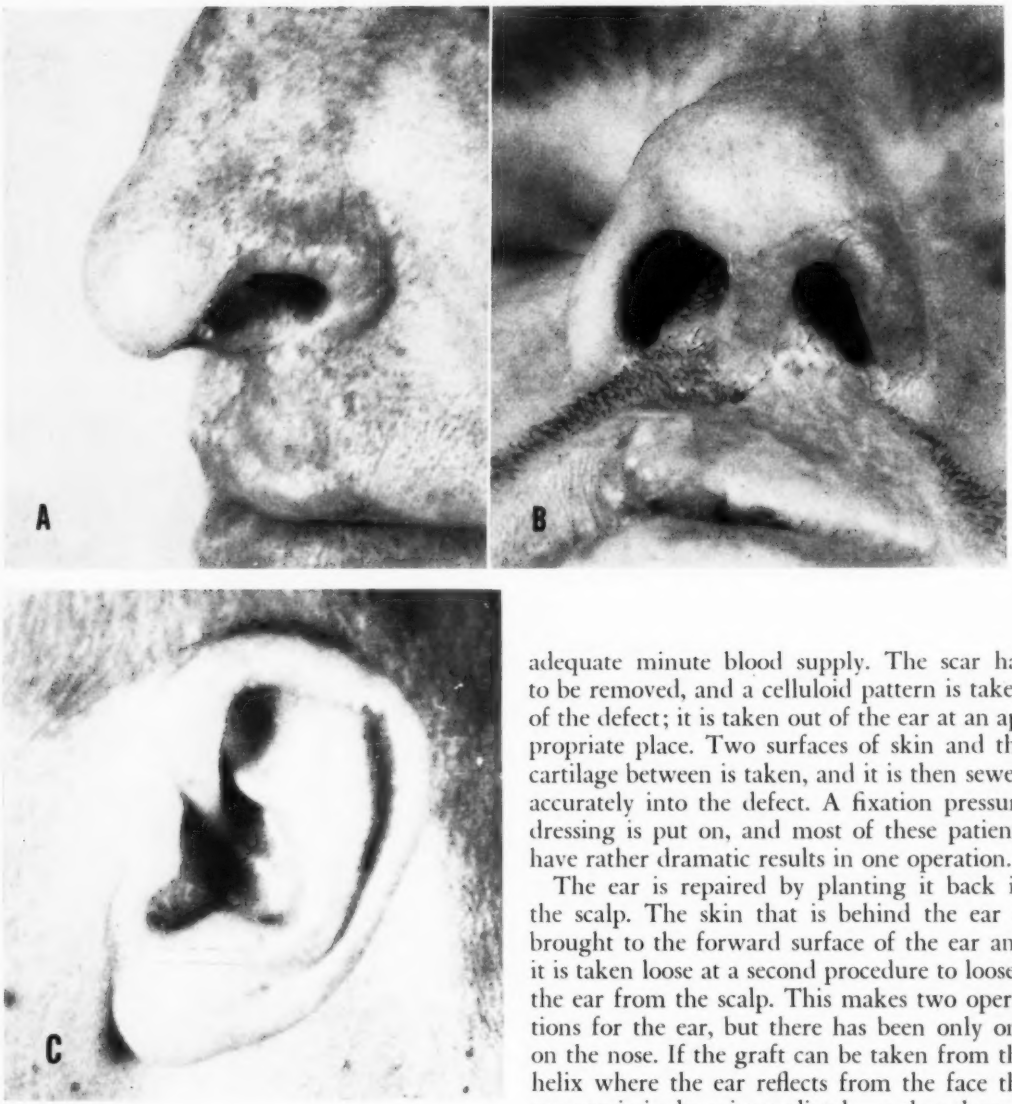


Figure 7. Single operation for restoration of ala, angle, and columnella of nose with free composite graft from ear. The repaired ear is shown. The lip has been let down from up in the nostril by a single operation using a free graft from the clavicular region. (From Brown, J. B., and Cannon, Bradford: Repair of major facial injuries. Ann. Surg. 126:624-632 [October] 1947.)

adequate minute blood supply. The scar has to be removed, and a celluloid pattern is taken of the defect; it is taken out of the ear at an appropriate place. Two surfaces of skin and the cartilage between is taken, and it is then sewed accurately into the defect. A fixation pressure dressing is put on, and most of these patients have rather dramatic results in one operation.

The ear is repaired by planting it back in the scalp. The skin that is behind the ear is brought to the forward surface of the ear and it is taken loose at a second procedure to loosen the ear from the scalp. This makes two operations for the ear, but there has been only one on the nose. If the graft can be taken from the helix where the ear reflects from the face the ear repair is done immediately so that there is but one operation on the ear.

This total replacement of a defect in a single-stage procedure is dwelt on because most plastic surgery is thought of as being long, drawn-out work with multiple procedures. Actually there is not relatively much operating, even in the preceding patient in Figure 5 who had only three major operations. But the waiting periods

between the operations take time. One cannot rush nature in the healing. When trouble occurs it is often found that some procedure has been hurried along. When in doubt, the process should be delayed to be safest with the all-important blood supply.

It can be seen that there is a skin graft on this patient's lip. To start with the lip border was clear up in the nostril. The first operation was to let his lip down and repair the defect with a full-thickness graft from just above the clavicle. The skin from this area is the most ideal type of skin with which to repair faces. It has a face-like quality, it can be transferred quite thick, its function is excellent, and its color is the best for the face. Another good source for color and function of grafts is behind the ear, but the quantity available from both of these sources is naturally limited.

Much of plastic surgery is predicated on the repair of defects from the treatment of carcinoma. These instances are usually in older persons who have some loose extra tissue in their faces. But young people who need plastic surgery, especially in military surgery, do not have any extra tissue in their faces, and so in making repairs for them it is felt that no further damage should be done to the face if it can be possibly avoided. Naturally all local tissue possible is used, but not at the expense of adding other gross deformity or scar or interrupting important nerve supply or function.

There is usually not too much trouble in taking the arm or neck or some distant area to repair these badly damaged faces, for example in making noses. Instead of cutting into the forehead and damaging it to some extent, the nose can be rebuilt with an arm flap. If the color is not adequate, permanent pigment injection can be done and the nose tattooed to be a decent matching color.

Extreme burns of the face form a whole chapter by themselves, and they occur by the hundreds. The main point in military surgery especially, is that they come in, "blown" full of dirt, and suffering all degrees of general debility, chronic shock, and malnutrition. What can be done for persons like this? We have simple, philosophical basic rules. What these patients need is to "get the wounds as clean as possible as soon as possible and to restore what skin has been lost." The patient in Figure 8 has had all of his restoration with split skin grafts. Total healing has been obtained and although he is not completely normal looking, he has good function, and is able to get by this way as co-captain of a football team and is able to play football. He has had both ears made, most of his scalp grafted, and much of his face grafted. Incidentally, he has been married and has become the father of a little boy since this happened.

THERE is a problem about a burned male face which the female does not have, and that is the caught whiskers. Many whiskers are caught under the surface and if they are not thoroughly burned out, they become imbedded in these very bad scars, and for restoration there has to be complete resection of the area to get rid of the hair follicles.

When these patients heal they are miserable because they do not have enough skin left to move around in. It is as if one had on too tight a pair of gloves or pants and could not move. These patients do not have enough skin for normal movement of the face. What do these patients need? The same thing just mentioned—"put back what has been lost," but first we have to recreate the original defect or loss to put his tissues, his eyelids and his nose and lips back where they belong. Too much pulling around of remaining tissues in the face only creates more deformity. Unfortunately the buried whiskers go clear through the skin down into the subcutaneous tissue, and a relatively deep dissection has to be done.

An important question in most severe facial burns is whether a pedicle flap such as in Figure 5 or free skin grafts should be used. Practically every burn can be done with free grafts on the flat surfaces and eyelids. Even the nose can be done if there is good enough support or armature left; if not, a pedicle flap repair is utilized.

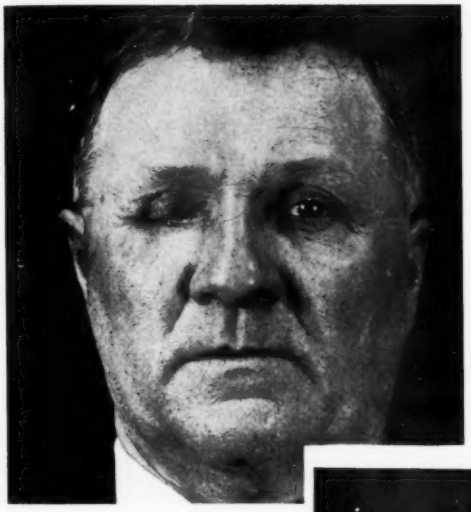
Figure 8. Extensive loss of skin from burns with restoration with free grafts and local flaps for ears.

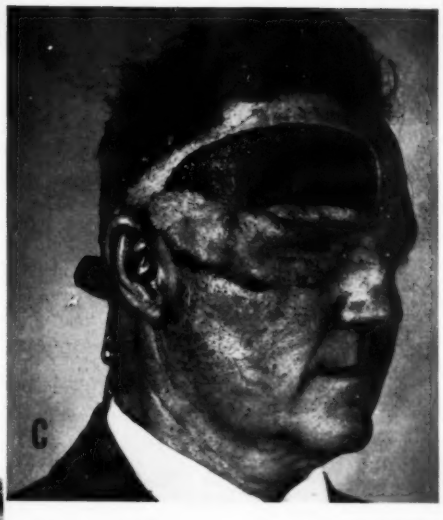
The results of treatment of carcinoma cause many extensive defects of the face and one illustration is shown in Figure 9. This patient has had an invasive basal cell carcinoma of the orbital region. Basal cell carcinoma is in no wise the mild growth that it is sometimes said to be in text books. It is questionable that invasive basal cell carcinomas are often cured if they have gotten in deeply enough. This is not intended disparagingly or hopelessly, but it is mentioned to suggest that these growths be considered dangerous and refractile to treatment and cared for early and thoroughly.

Perhaps the most dangerous place one could have such an invasive growth is at the orbit. The next most dangerous is around the ear, and the third most dangerous is the pyriform recess beside the nose.

An exenteration has been done with nothing left in the orbit in the patient in Figure 9. The repair has been made with a direct flap from the forehead so that only two operations were necessary. Many times delayed flaps are used but in this instance the orbit is covered with this part of his forehead brought down as an immediate or direct flap. The flap is severed at a later date and the forehead is repaired with a graft from his leg.

Perhaps one might say, "Why not make a new orbit?" The answer is that at present, good enough orbits are practically not obtainable with the extensive work that they require. If kenesis of the new lids cannot be obtained, then one cannot get an orbit which will retain an eye. If this is the outcome the patient won't go without a bandage anyway, so that he is usually much better off with this blanked-out procedure and he can go immediately about his business. Any type of artificial prosthesis can be made but patients seldom wear them





Figures 9*a*, *b* and *c*. Invasive basal cell carcinoma resistant to local excision. Recurrence shown requiring total obliteration of orbital region. Direct flap from forehead used for repair. Two operations. *d* and *e*. Blanked out orbit, free of trouble and of dressings. Nine years with no recurrence.

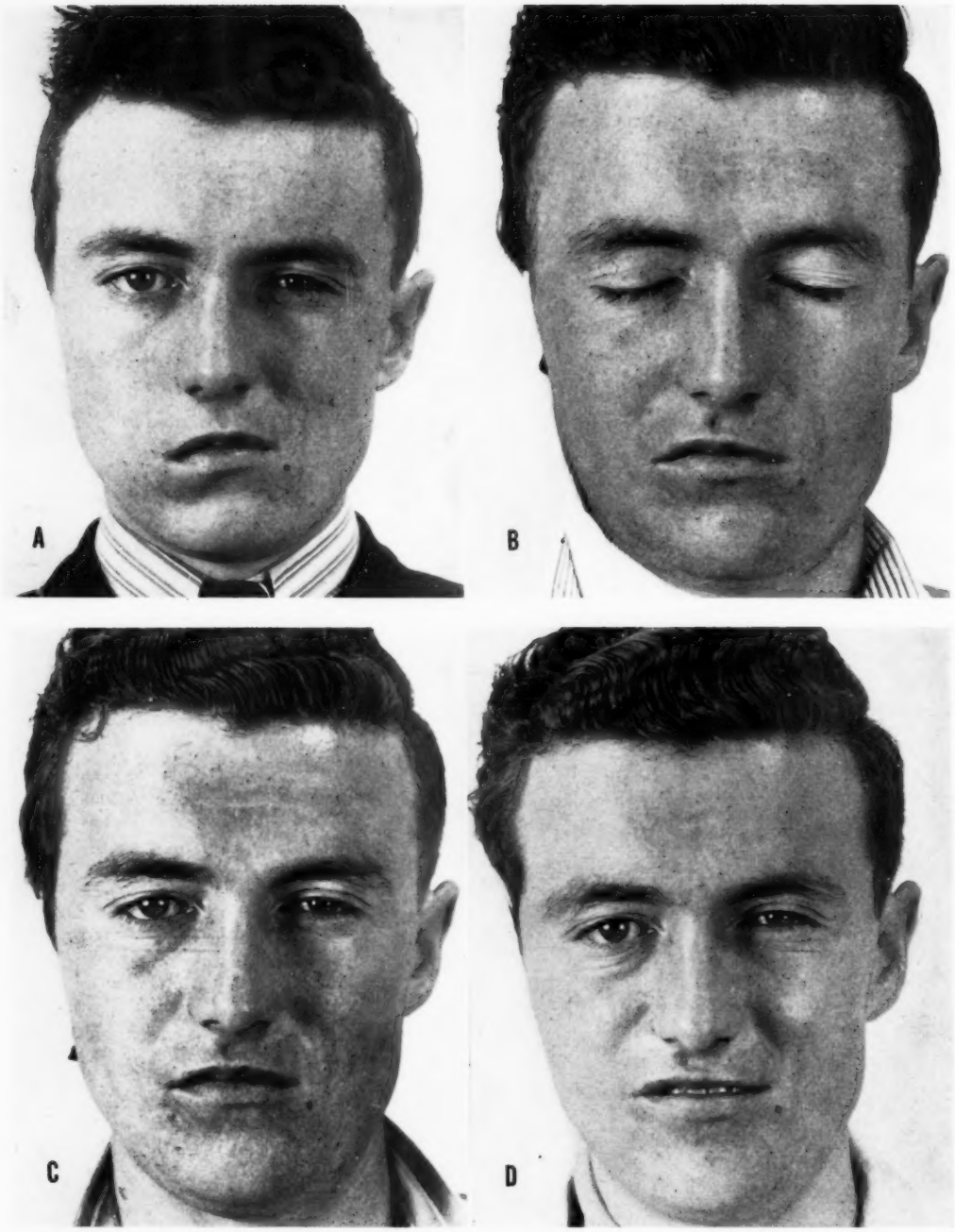


Figure 10. Facial paralysis supported with strips of fascia lata anchored in the temporal muscle. Patient completely closes eye (which is not always obtainable) and gets by with many who see him not realizing his seventh nerve is paralyzed.

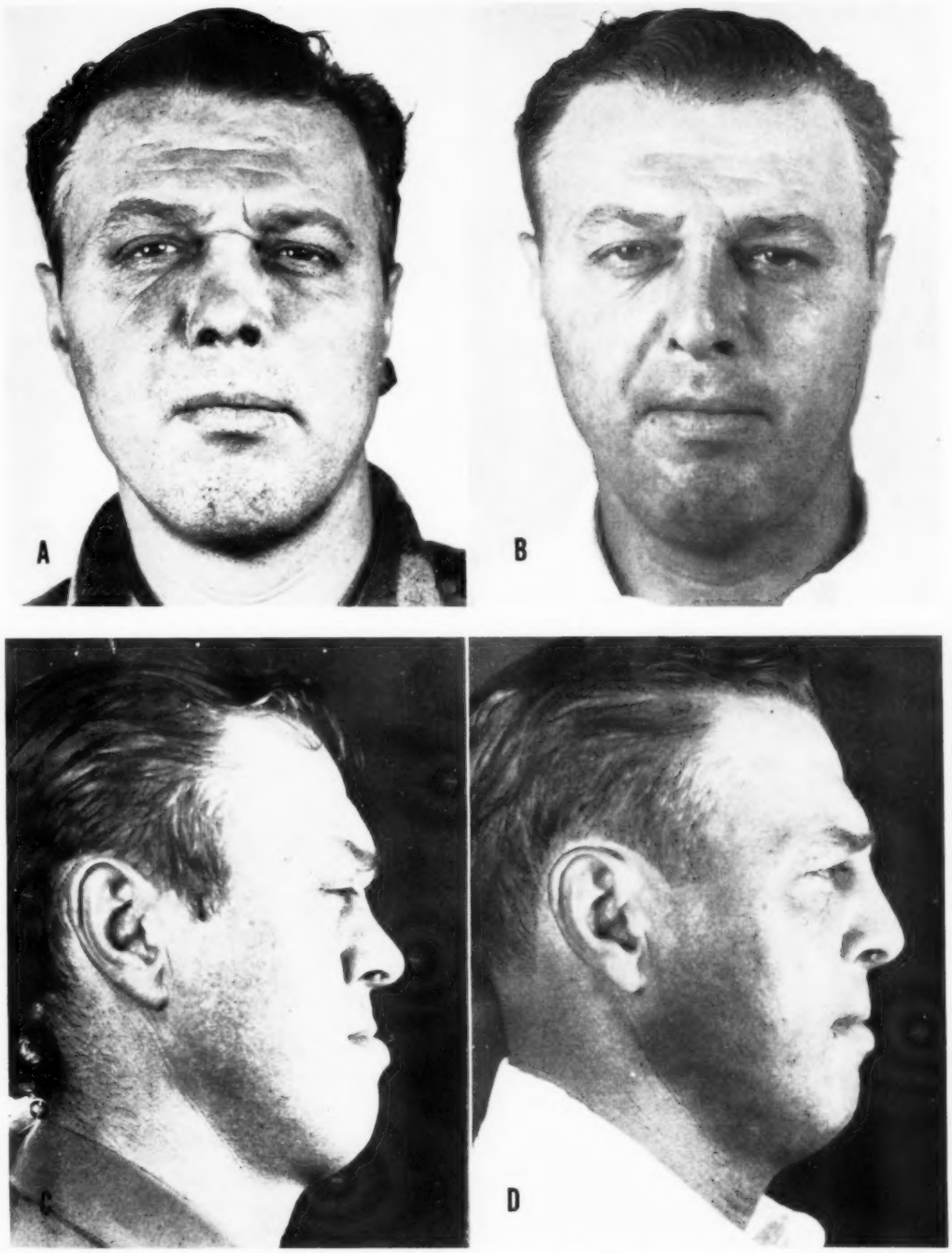


Figure 11. Whole face and nose pushed back or caved in, from traffic accident. Patient was seen late when bones were firm in depressed position. Whole face built forward with four cartilage transplants, both orbital borders, across under nose from side to side, and L-shaped transplant for dorsum of nose and columnella.

consistently. This patient has gone nine years without recurrence.

Facial paralysis, of course, would be ideally repaired by nerve repair, but when there is no chance of nerve restoration—or while awaiting a decision about it, the face can be supported by live strips of autogenous fascia lata. These are anchored in the temporal muscle and fascia and down in the face at the mouth and lip level. Strips may be put through the lower lid if necessary and in long-standing instances with much loose lax tissue this can be elevated and excised. The patient in Figure 10 illustrates this method of repair. From a total, obvious paralysis, he has the support of his face from a fifth nerve muscle and by not overacting on the sound side, he can get by with most passers-by not realizing that his face is paralyzed. By elevating his face he also can close his eye, but this degree of function is not always obtained.

Severe crushing injuries of the face may practically destroy all bony continuity and leave the bony structure in dozens of pieces without doing much permanent soft tissue damage. For the early replacement of the bone, practically everything should be saved and put back into position in procedures that are aimed primarily at "doing the opposite of what the accident did." Soft comminuted bones are packed or "mulched" into position and held with gauze packs inside the nose and antra. External fixations and appliances, and the proper fixation of the teeth are carried out as required.

When facial bones are left out of position for too long a time, they become fixed and cannot be successfully shifted and retained in position. In these instances subcutaneous prostheses are used, usually as transplanted cartilage or bone, or some persistent non-irritating metal or plastic material.

The patient in Figure 11 shows a retruded face from a serious blow with not much semblance of his original appearance left. His restoration consists of cartilage transplants, across under both orbital borders to restore their prominence, a block of cartilage across under the ala of the nose from side to side, and an L-shaped cartilage restoration of the bridge of the nose to bring it forward.

"The surgeon like the tailor can make no better cloak than his cloth and it is well to realize limitations as well as possibilities in attempting major repairs. There is only one original and more surgical restorations are only substitutions. Diagnosis is of major importance and includes determination of what tissue has been lost or displaced as well as what distorted function to expect from it.

"It has been firmly established that if badly lacerated faces can be restored promptly, that the one single operation can often effect an excellent result"—without early evacuation and early operation, satisfactory results can be obtained only with extensive procedures, requiring multiple operations.

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CASE REPORT

Physical Exercise in the Treatment of Hypochondriasis

WALTER FREEMAN*

WASHINGTON, D. C.

Mrs. Betty S. consulted me December 5, 1945, and I had to write pretty fast to keep up with her complaints. She dated her trouble from January 1944, when she had a hysterectomy, followed by catheterization, and supposed perforation of the urethra. She was going to sue the hospital. There had been two previous pelvic operations. Her husband stated that she had been full of complaints for years and had been unable to do any work around the house since 1942. She was 37 years old and had one child, and the domestic situation was far from serene.

"After that my body started to burn and there was so much discharge, bleeding, and pain in the groin. I went to —— Hospital where a diagnosis was made of traumatic neuritis of the ilio-inguinal nerve and this resulted in complete paralysis of the left thigh. The infection spread to both kidneys and blocked the outlet, and a month ago Doctor —— advised nerve block. When I go to get injections for my uterus, it seems to stir up the nerves. When the kidney works, it bothers me and I shake and quiver. In March 1945, my urethra was transplanted and I was desperate, it made the whole family desperate. I used to be very heavy but I've lost a lot of weight. I feel a contraction, feel all choked up, my leg draws and throbs, and my thighs seem to work. My head draws and my sides swell up."

Betty was animated in listing her complaints and she went into considerable detail, much of which I missed. The description was on the chaotic side and accompanied by a great deal of emotional display. Neurologic examination disclosed no defects in coordination, motor power, or sensibility. Blood pressure was 140/98 and the pulse 112. She showed marked hyperventilation, with cold hands, but no swaying in the Romberg test.

The husband agreed with the doctors that it was all in her head and this made Betty mad because she was sure there was something wrong, and she sat around and brooded all day and did no work in spite of her strong and healthy appearance.

My report to the referring doctor was that Mrs. S. might have some local condition that was potentially annoying, but it could not have been built up into all this high-powered extravaganza of symptomatology without a lot of emotion. Her hypochondriasis, I suspected, was rather firmly fixed but since I had seen even worse cases recover when their will power was challenged, I challenged the patient to come back to me in a week and prove that she had walked an average of five miles a day. I told the doctor that it would probably take her a long time to walk off the hypochondriasis, if she ever succeeded, but I was sure that shock

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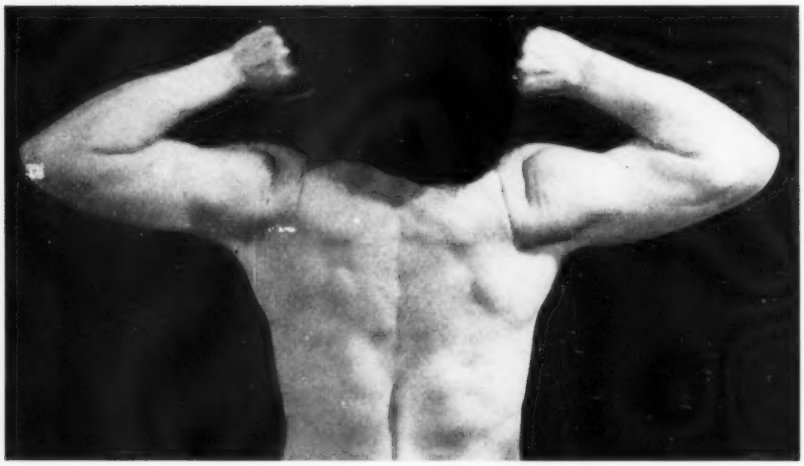

Patient described in Case Report.

therapy would never touch it and that prefrontal lobotomy was not advisable because of the strained domestic situation. I told her husband to stop telling his wife there was nothing wrong with her because a lot was wrong; but that he could help her by getting out and working and walking with her, especially on weekends.

Betty accepted the challenge. She started gradually so as not to get blisters on her feet; took her walking program seriously and in three weeks reported that she was up to ten or eleven miles a day, which I disbelieved. There was no cessation of the complaints; in fact, whenever she was allowed to, she started off again with a full series.

My next contact with her was through a summons served on me in her malpractice suit against the hospital. She sued the hospital for negligence and required my testimony. I was not summoned as an expert and was not allowed to testify as to my opinion because I had examined her and consequently knew something about her. I received the $2.00 witness fee. She was awarded some $5,000 from which the company appealed.

Meanwhile, she asked the referring physician to send her back to me, in spite of the fact that she thought I didn't like her. I confirmed him in this belief and told the doctor that I would receive his albatross, Betty, with considerable reluctance. She came, nevertheless, and reported that her activities had been interfered with because of bad weather and illness in the family. However, in addition to walking, she exercised indoors by lifting weights, doing sitting-up exercises, running up and down stairs and when the weather was good she rode a bicycle or spaded up the garden. In the spring, she was accustomed to meeting the postman regularly on his route and he offered laughingly to give her a job. Her complaints were somewhat less severe than they had been six months previously, but had not changed in character.

In September 1946, things came to a show-down between the patient and her family because of her husband's objection to the strenuousness of the exercise. "No woman ought to be going through those calisthenics and weight-lifting exercises like she is. She'll hurt herself somehow and make it worse than before." When Betty began her recital it was very much like the same record played over again. "My nerves jump; water seems to come up to my knees and eyes; it burns in my head and my eyes; and I'm weak all over." She looked the picture of vigorous health. On one of her recent panicky spells she had been given some capsules, took them all at one time and was knocked out

for four days. The heart and blood pressure were normal and I insisted on her continuing her activities.

The panicky spells continued and on the occasion of her mother's death in December 1946, she became so upset that a physician knocked her out with morphine. She slept for four days and missed the funeral. She resumed her physical activity when she returned and achieved a sufficient relief of emotional tension so that she could again respond sexually to her husband better than she had for five years. Occasionally, when she got far enough away from civilization, she would pick up a big stick and pound the ground with it to get the tension out of her system. She accepted my suggestion to go bowling and to name the pins after her pet peeves, No. 1 being her husband. She soon excelled in the sport.

By this time she paid little attention to her husband's sneering attitude and went ahead with her muscular development. The trainer in a physical-fitness institute that she patronized estimated that she was doing the equivalent of 16,000 to 18,000 foot-pounds per day. Her muscular development in May 1947 is shown in the accompanying photo.

When seen in January 1948, she demonstrated her prowess by carrying me pick-a-back. She did not complain of her pelvic distress, in fact it was difficult to persuade her to talk about it. Instead she talked at length about her exercises and the control she was able to exert over individual muscles. She was sleeping well, enjoyed her activity and reported that her husband's attitude did not bother her now that she knew she was on the road to health. Her suit had been settled for $1,000, which paid for her operations with nothing left over.

COMMENT

Fundamentally, I believe that this was a case of hypochondriasis based on sexual disharmony and treated ineffectively by multiple pelvic operations. The financial settlement did nothing to eliminate the complaints. The physical activity régime undertaken by Betty some two years ago had three therapeutic effects: It compensated for the emotional hyperventilation by greatly increasing carbon dioxide production and thus restoring the balance. This was at the psychologic or biochemical level.

In the second place, she was able to release her pent-up hostility by pounding the ground with a big stick, bowling, and lifting the bar bells. Finally it has shifted the focus of her attention from the unknown internal organs with their dire threat of disaster to easily visible and palpable structures, her muscles, in which she can take a certain pride. She has regained her good humor and her working capacity around the house and has planned to divorce her unsympathetic husband as soon as her son graduates from school.

SUMMARY

A case of severe hypochondriasis, malignant hyperventilation, compensation neurosis, and sexual maladjustment. The patient developed a single asset, her muscles, with good results.

MENTAL HYGIENE FELLOWSHIPS ANNOUNCED

Postdoctorate research fellowships in mental hygiene will be awarded by the U.S. Public Health Service to qualified individuals holding a doctor's degree in medical or related fields. The fellowship carries a stipend of $3,000 ($3,600 for doctors with dependents), but not including tuition. A special research fellowship is also offered to those who qualify for a postdoctorate fellowship and in addition have demonstrated outstanding ability or possess specialized training. This fellowship does not carry a set stipend, the amount being determined in the individual case.

Additional information may be obtained from the Division of Research Grants and Fellowships, National Institute of Health, Bethesda 14, Maryland.

CLINICOPATHOLOGIC CONFERENCE

Pulmonary Infiltration with Adenopathy

FROM NICHOLS VETERANS ADMINISTRATION HOSPITAL*

HAROLD GORDON, M. D., EDITOR

CLINICAL ABSTRACT

THE patient, a 24-year-old colored male, was admitted July 16, 1947, because of pain in his stomach and the right side of his chest. He had been well until June 1945, when he had "gas on his stomach," usually accompanied by vomiting after almost every meal. He had only slight pain but his bowel movements became irregular. He entered a hospital, where no definite lesions were found, but his symptoms persisted. Later in 1945, he apparently had pleurisy with effusion and again entered a hospital. He did not know whether or not a diagnosis of tuberculosis was made. He stayed in the hospital six months, then was discharged from the Army and sent to a Veterans Administration hospital, where he remained another six months. Afterwards, he had soreness in the anterolateral portion of the right side of his chest, aggravated by deep breathing and coughing. One month before admission he was advised to enter a hospital.

His past history was non-contributory. He served in the E.T.O.

Physical examination—His admission pulse was 100, his blood pressure 120/70, his temperature normal. Several discrete, rather firm swellings, each approximately 1 to 1.5 cm. in diameter, were palpable bilaterally at the angles of the jaws and in the region of the parotid glands. There was slight limitation of expansion of the right side of the chest. The percussion note over the lower half of the right lung was impaired. A few râles were audible in the same region, with diminished tactile and vocal fremitus. There was marked tenderness in the right hypochondrium. The liver and spleen were not enlarged.

Course—He was afebrile except occasionally in the afternoon, when his temperature reached 99.2°. The pulse rate was in keeping with the temperature curve. Eleven days after admission he had some discharge from the urethra. A diagnosis of gonorrhea was confirmed by bacteriologic examination. Penicillin therapy caused prompt recovery. His course otherwise was not remarkable. A biopsy of one of the nodules at the angle of the right jaw was taken August 4. His status afterwards was that of an ambulatory patient.

X-ray reports—The pleura at the right base is thickened. The right lung shows spotty infiltration and the hilar shadow on the right side is increased. The left lung shows slight fibrosis. Two weeks later (July 29) the hilar nodes were enlarged bilaterally, otherwise no additional changes were seen. Gastrointestinal series and x-rays of the carpal and metacarpal bones showed no lesions.

*From the Departments of Medicine, Surgery and Laboratory Service, Nichols Veterans Administration Hospital, Louisville, Kentucky.

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Laboratory reports—Erythrocyte and leukocyte counts were within normal limits, as were hemoglobin values and the differential leukocyte counts. Sedimentation rate was 13 mm. per hour on July 17, 25 mm. per hour on July 29. The Kahn test on his blood was negative. A Mantoux test, July 21, was reported faintly positive. The serum proteins were 6.8 gm., with albumin 4.4, globulin 2.4. A later specimen contained 5.2 gm. protein, 2.4 gm. albumin, and 2.8 gm. globulin. Thirteen specimens of sputum (24-hour specimens, concentrated) and three gastric washings were negative for acid-fast bacilli. Urinalyses were not abnormal.

DISCUSSION

DR. J. MURRAY KINSMAN (Senior Medical Consultant): Certain things stand out in this man's history. He is a Negro in his early twenties. His illness started with pain in the stomach and pain in the chest. He had hardly any fever while in the hospital. He had no leukocytosis, and the sedimentation rate of his blood was elevated only slightly. In other words, he had very little systemic reaction. It is significant also that his serum proteins, at first essentially normal, later showed a reversal of the albumin-globulin ratio. He also had enlarged lymph nodes, with apparently the preauriculars being especially involved. I presume the diagnosis in this case revolves around the report on the biopsy.

The fact that the conference depends upon the report of the biopsy immediately calls attention to the lymphadenopathy. One of the first things to eliminate, therefore, would be some type of local infection, such as an infected tooth or sinus. That would have been likely if only the lymph nodes were being considered. But this man also had pulmonary symptoms and x-ray changes in his chest. I'd prefer to see the x-ray films demonstrated later because I believe that the abstract alone will permit us to make a diagnosis.

We can easily rule out local infection, such as an abscessed tooth, because he had symptoms of disease elsewhere. Next we might think of some of the blood dyscrasias. He had no anemia and no leukocytosis. The differential leukocyte counts were normal. The spleen was not enlarged and he had no hemorrhagic manifestations. Accordingly, leukemia can be ruled out. Hodgkin's disease can be eliminated on similar grounds, plus the absence of generalized glandular enlargement and fever. These considerations also exclude the lymphomas.

According to the description in the abstract, the lung parenchyma as well as the hilar nodes were involved, so there is little suggestion of any of the lymphomas. These sometimes involve the throat and tonsils so we have to think of them. But I am assuming that this man had one disease, so I give equal weight to the pulmonary symptoms, the digestive complaints, and the enlarged nodes.

Next we might consider some of the acute infections, systemic rather than localized. Among these I include infectious mononucleosis. But this man had little fever, no generalized glandular involvement, no sore throat, no enlargement of the spleen, and no changes in the leukocyte counts or in the blood smears. The heterophil agglutination test was not done. There seems no indication for it.

Next we think of some of the chronic infections, especially tuberculosis. No acid-fast bacilli were found in the sputum or in the gastric washings. The changes in the lungs, as recorded in the abstract, are suggestive of tuberculosis but are by no means typical. It is my understanding, also, that the infiltrations seen by x-ray are more apt to start in the hilar region and spread laterally in Negroes than in white people. The lymph nodes often are involved in tuberculosis. But there are these potent arguments against tuberculosis—the patient had hardly any fever, he apparently did not feel very sick, the sedimentation rate was elevated only slightly, he did not have an increase in either lymphocytes or monocytes. I think tuberculosis is the second most likely diagnosis but it is not my diagnosis. Syphilis also has to be taken into account. It causes lymph node enlargement and occasionally produces changes in the lungs. However, in syphilis the lymph node involvement is usually generalized and the Kahn test on the blood is positive. It is hard to say more about syphilis. Like tuberculosis, it may affect almost any organ, so we have to consider it.

Perhaps there are other conditions we might

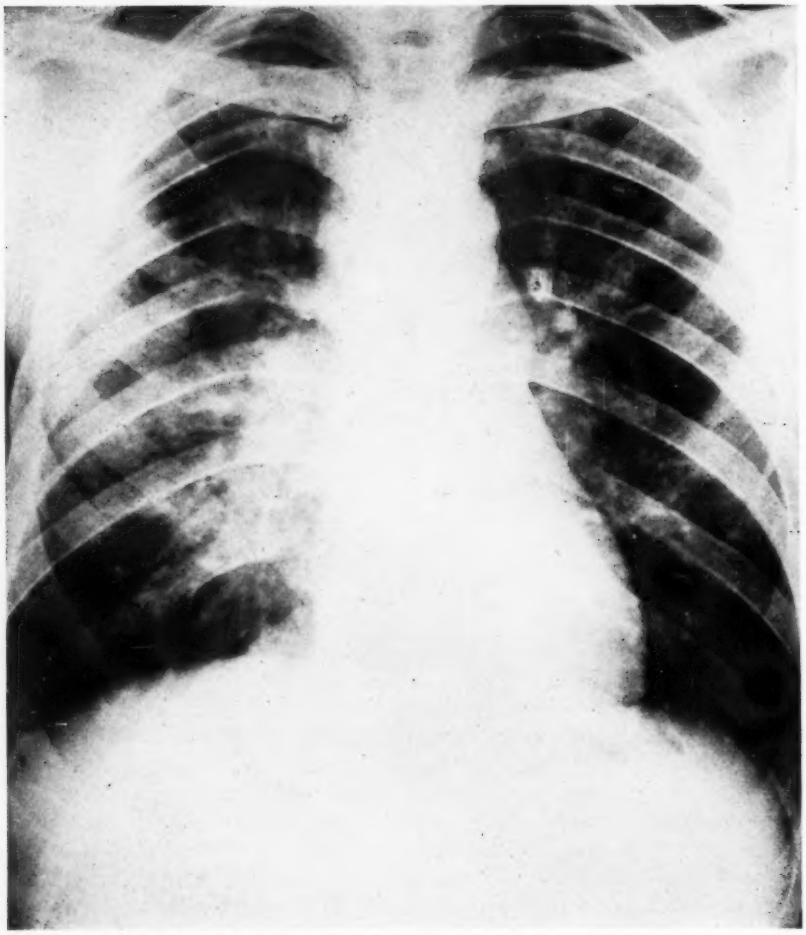

Figure 1. P-A film, showing bilateral hilar adenopathy with nodular reticulation in both lungs. There is also some infiltration in both midlung fields, extending from the hilum on each side, more marked on the right.

think of, but finally we come to the disease which I think this man had—Boeck's sarcoid, or sarcoidosis. As most of you know, this is a disease so closely allied to tuberculosis that many pathologists and clinicians believe it is a form of tuberculosis. It may involve almost any organ. Recently I saw an autopsy report in which lesions were found in the spleen, lungs, lymph nodes, skin, bones, liver, heart, and intestines. The skin is said to be affected in about 50 per cent of all cases. As far as the lymph nodes are concerned, the disease has a special predilection for the pre- and postauricular nodes. That influences me in this case. The parotid and other salivary glands and the eyes are involved often, so that we speak of uveoparotid fever. The patient usually has fever when the parotid glands and uveal tracts are affected. When there is no uveoparotitis, the course may be afebrile, or nearly so. The absence of severe systemic reactions, such as fever, leukocytosis, and an elevated sedimentation rate, are in favor of Boeck's sarcoid. Incidentally, may I ask this—how sick was the patient?

RESIDENT: He has been discharged, but he never was really sick while in the hospital.

DR. KINSMAN: That fits in perfectly. Finally, pulmonary involvement is very common in Boeck's sarcoid. The pulmonary involvement may be of two kinds. In one, the hilar nodes become enlarged. In the other, the lungs present a speckled or spotted appearance. One thing here unusual in Boeck's sarcoid is the history of pleurisy.

To return to the patient we are discussing you will note he had a reversal of the A/G ratio. I am sure the staff men had sarcoidosis in mind, or they would not have ordered the test, especially a repeat examination. Apparently this man did not have any punched-out areas in the phalanges or metacarpal bones. At least, the x-ray report does not mention such lesions. I believe that it is very uncommon to see skin, lung, and bone changes all at the same time.

In summary, I base my diagnosis of sarcoidosis on these considerations: The patient is a Negro; he is young; he had pulmonary symptoms; the preauricular nodes were enlarged; systemic reaction was very slight; the albumin/globulin ratio was reversed; the x-ray report is in keeping with this diagnosis. I wonder if we might have the x-rays demonstrated now.

DR. DAVID SHAPIRO (Chief of X-ray): As is well demonstrated, the x-ray films show enlargement of the hilar nodes and also reticulation and nodulation of the lung parenchyma. There is a stringy appearance extending from the hilum into the lung on each side. There are no visible lesions in the phalangeal bones. At one institution where we were especially interested in the bone changes in sarcoidosis, we had only one patient, in our entire series of twenty cases, with bone lesions. Even in that patient, the changes were none too typical. I believe lesions in the bones of the hands are rare. Garland, in a series of thirty-six cases, reported only some 10 per cent with definite lesions in the bones. As a rule, the x-ray changes in Boeck's sarcoid are seen best in films of the chest and generally conform to one of three types: (1) reticulation and nodulation of the lungs; (2) enlargement of the hilar or right paratracheal nodes; or (3) a combination of the lymphadenopathy and pulmonary lesions. The lesions often clear up and usually, if the patients are followed long enough, you will find old fibrosis.

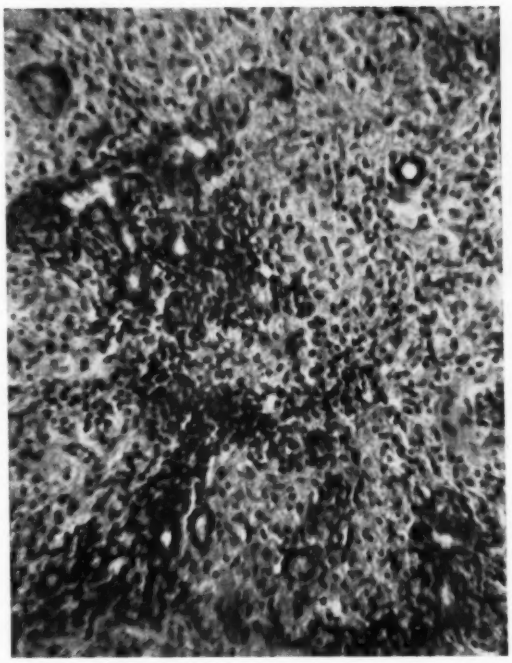

Figure 2. Photomicrograph showing numerous tubercle-like lesions with marked proliferation of monocytes and multinucleate giant cell reaction. At the periphery are groups of lymphocytes about salivary gland ducts. Caseation necrosis is absent and there is no "palisading," such as is commonly observed in frank tuberculosis.

DR. GOTT (Chief of Medicine): As a matter of interest, I'd like to ask Dr. Kinsman how many cases of sarcoid disease he has seen. In my own experience, both in private practice and at the General Hospital in this city, sarcoidosis is not a common disease. I have seen some 6 or 7 patients who were suspected of having Boeck's sarcoid, but this is the first patient where the diagnosis was proved. Interestingly enough, while this man was still in the hospital, we received two other patients with sarcoidosis. One of these developed tuberculosis.

The other was admitted to the Eye Service and had iridocyclitis.

DR. KINSMAN: To be truthful, I think I've seen 6 or perhaps 8 cases. In 3 or maybe 4, the diagnosis was confirmed. One of these I saw at Fort Bragg. He had such typical skin lesions that a dermatologist made the diagnosis on sight, without knowing anything about the patient. I don't know what the etiology of the disease is, but I do want to emphasize that any time you see a Negro, especially a young one, with pulmonary involvement, who is not very sick, sarcoidosis should be your first thought. Tuberculosis usually causes pronounced systemic reaction. I take it for granted that the gonorrheal infection which he contracted was merely a coincidental infection.

RESIDENT: Is there any relationship between regional ileitis and sarcoidosis?

DR. GORDON (Chief of Laboratory Service): Regional ileitis, like sarcoidosis, is considered one of the reticulo-endothelioses. They certainly are not alike histologically. In regional ileitis there is a granulomatous reaction with many monocytes and fibroblasts, occasional small giant cells. In sarcoidosis the lesions are less diffuse and occur as circumscribed nodules resembling tuberculosis but without caseation necrosis.

Clinical diagnosis: Sarcoid Disease.

Dr. Kinsman's diagnosis: Boeck's Sarcoid.

Microscopic diagnosis: Sarcoidosis (Boeck's sarcoid).

DR. GORDON: The biopsy specimen showed no gross lesions. Microscopically, the tissue proved to be salivary gland, not lymph node. As you can see, the ducts are not involved, but the acini are completely replaced by granulation tissue. Here are the typical miliary foci of pale epithelioid cells with numerous multinucleated giant cells, with no sign of caseation necrosis. Except for the lack of caseation necrosis, the changes are indistinguishable from true tuberculosis.

Clinicopathologic correlation — According to Longcope and Pierson (Bull. Johns Hopkins Hosp. 60:223, 1937), Boeck's sarcoid is a "chronic infectious granuloma, persisting often for years, sometimes spreading slowly from one organ or tissue to another, frequently relapsing, seldom producing serious constitutional symptoms, resistant to treatment but at times healing spontaneously."

It is unfortunate that certain localized features of the disease have been overemphasized. Radiologic changes in the bones with "areas of rarefaction and reticulation in the medulla of the phalanges" occur in less than 30 per cent of all cases. X-rays of the chest may reveal "marbling or reticulation spreading from the hilum to the base," but are more apt to reveal changes almost indistinguishable from those seen in pneumoconiosis and in miliary tuberculosis. Widely disseminated, firm, discrete, violaceous or reddish-brown nodularities and infiltrations in the skin are familiar to dermatologists. Otolaryngologists and ophthalmologists are equally familiar with the lesions encountered in uveoparotid fever and iridocyclitis. But the lesions of Boeck's sarcoid may occur in any organ or tissue and more often than not are widely disseminated. The lymph nodes perhaps are involved more often than any other tissue. When they are, the disease may be hard to distinguish from tuberculosis and Hodgkin's disease, except, as Dr. Kinsman pointed out, for the lack of serious constitutional changes. Nickerson (Arch. Path. 24:19, 1937) pointed out that sarcoidosis does not cause destruction of reticular fibers in the tissues. Perhaps this accounts for the reticulation seen in x-ray films of the lungs and bones. The lack of caseation necrosis may perhaps explain the absence of constitutional disturbances in sarcoidosis.

The etiology of Boeck's sarcoid is not known. Generally recognized as infectious in origin, its infectious nature is unproved. Some believe it is a peculiar (anergic) response to infection by Myco. tuberculosis or their phospholipid distintegration products. Others deny its tuberculous origin. It has been suggested that the disease may be due to a virus or may be a mild type of leprosy. Attempts to transmit the disease to animals have been unsuccessful and cultures of material removed at operation have not yielded any growth. About 10 per cent of all cases have tuberculosis as well as sarcoidosis.

EXPERIMENTAL

Topical Treatment With Thephorin

BEDFORD SHELMIRE*

SOUTHWESTERN MEDICAL COLLEGE, DALLAS

THE discovery by Wenner and Plati of the pyridindene derivatives, a new class of compounds with specific antihistaminic action,[1,2] added to the array of histamine antagonists a drug—2-methyl-9-phenyl-2,3,4,9-tetrahydro-1-pyridindene—whose hydrogen tartrate (phenindamine) proved effective by the oral route in combating allergic manifestations,[3,4] and whose toxicity was shown to be distinctly lower than that of the antihistaminic drugs previously established in therapeutics and which are derivatives of ethanolamine and of ethylenediamine respectively.[5]

Any drug which is distinguished by clinical efficacy and good tolerability deserves consideration in different application forms. Therefore, it was decided to evaluate in various cutaneous disorders ointment preparations containing salts of the phenindamine base.

Two products were used: one containing as active ingredient 5 per cent of the hydrogen tartrate of the phenindamine base in "Carbowax 1500" and the other 5 per cent of the phosphate of that base in the same vehicle. Since for all practical purposes, both salts are of the same activity and of the same tolerance, no distinction will be made in recording results. For the sake of simplicity both preparations will be referred to henceforth as Thephorin Ointment†.

*Department of Dermatology, Southwestern Medical College, Dallas, Texas.

†Thephorin is the "Roche" brand of phenindamine. Liberal supplies of the Thephorin Ointment preparations were made available through the courtesy of Hoffmann-La Roche, Inc.

CASE MATERIAL AND RESULTS

Thephorin Ointment was employed in 455 cases with a variety of dermatoses, but this paper describes our clinical experience in only 305 of these patients, the balance of 150 not having been observed over a sufficiently long period to warrant inclusion in this report.

Two hundred and seventy-one of the 305 cases presented were above the age of 16 years and among the children there were 14 under the age of one year.

The patients were instructed to apply the ointment as frequently as desired and in the case of infants the mothers were told to administer the salve as often as the relief obtained seemed to wear off.

As shown in Table 1, which groups together cases with identical diagnoses and summarizes the results obtained, a total of 233 patients or 76.4 per cent showed benefit from the application of the salve and 72 or 23.6 per cent were not or only slightly improved. The relief observed in the former group was classified as good to excellent in 190 cases or 62.3 per cent, and as fair in 43 or 14.1 per cent.

It can be further seen from Table 1 that atopic dermatitis, contact dermatitis, circumscribed neurodermatitis, and miscellaneous pruritic dermatoses were represented by significant numbers. Of the 29 patients with a diagnosis of atopic dermatitis, 18 or 62.1 per cent were improved from Thephorin Ointment (16 or 55.2 per cent obtained good to excellent results and 2 or 6.9 per cent fair relief).

BEDFORD SHELMIRE

Of the 57 patients with a diagnosis of contact dermatitis, 39 or 68.4 per cent responded favorably to treatment (33 or 57.9 per cent had good to excellent results and 6 or 10.5 per cent fair results). Of the 56 patients with circumscribed neurodermatitis, 51 or 91.1 per cent were improved, with results being classified as good to excellent in 42 or 75 per cent and fair in 9 or 16.1 per cent. Of the 154 patients grouped together under miscellaneous pruritic dermatoses, 118 or 76.6 per cent derived benefit from the salve with results being good to excellent in 93 or 60.4 per cent and fair in 25 or 16.2 per cent. Obviously, the calculated percentage of success in the cases suffering from pruritus ani and pruritus vulvae have limited significance because of the small number of patients studied.

Of the lesions grouped together under miscellaneous pruritic dermatoses, 48 had been diagnosed as lichenified eczema. In 31 of these the administration of Thephorin Ointment was attended by good to excellent results and in 6 by fair results, an incidence of success of 77.1 per cent.

Of the 305 cases presented, 139 patients had suffered from their lesions for six months or longer. As appears from Table 2, 93 or 66.9 per cent of these 139 patients obtained good to excellent results, and 18 or 13 per cent fair results with Thephorin Ointment. It can be concluded that the incidence of success in patients with chronic lesions was at least as great as in patients whose illness was of short duration only. It is worthy of note that there were 8 patients, each of whom suffered for twenty years, one for over twenty-five years, one for thirty years, one for thirty-five years, and one for over sixty years. In all of these, fair to excellent results were obtained.

CONTROLS

Fifty control tests were performed to determine the antipruritic value of the carbowax base alone. Many of the individuals thus tested claimed to obtain moderate relief of their pruritus from the nonmedicated base. However, when Thephorin Ointment and the placebo medication were used alternately the patients invariably stated that far greater and more lasting relief of the pruritus was obtained from the salve containing Thephorin.

SKIN SENSITIZING INDEX

Of the 305 patients included in this review, one developed a sensitization dermatitis from the use of Thephorin. However, the skin sensitizing index of the ointment is somewhat higher than would appear from these figures since an additional 5 cases of contact dermatitis due to Thephorin were encountered among the 150 patients receiving the salve, but who are not included in this report. Thus there were observed 6 instances of contact-type sensitization among 455 persons, an incidence of 1.31 per cent. This is a low sensitizing index, particularly if one considers that the ointment was used by a great number of patients over a comparatively long period of time and that the quantities of the salve applied were often quite considerable. Thus of the 305 cases constituting this report 222 employed the ointment longer than one week. Several patients used the salve over the entire body. Similarly, in three infants, the whole body was covered with Thephorin Ointment (for one baby this was done 10 to 15 times during twenty-four-hour periods, with a total of 18 ounces being applied; for the second this was done 8 to 10 times daily, and for the third several times daily). On 2 other babies 1 ounce of the salve was applied daily without any signs of sensitization.

TABLE 1

RESULTS OF TREATMENT WITH THEPHORIN OINTMENT IN 305 PATIENTS

DIAGNOSIS	TOTAL NUMBER OF CASES	RESULTS				
		GOOD TO EXCELLENT	FAIR	POOR OR NEGATIVE	TOTAL NUMBER IMPROVED	INCIDENCE OF SUCCESS, PER CENT
Atopic dermatitis (neurodermatitis, infantile allergic eczema)	29	16	2	11	18	62.1
Contact dermatitis	57	33	6	18	39	68.4
Circumscribed neurodermatitis	56	42	9	5	51	91.1
Pruritus ani, pruritus vulvae	9	6	1	2	7	77.8
Miscellaneous pruritic dermatoses	154	93	25	36	118	76.6
TOTAL	305	190	43	72	233	76.4

TABLE 2

DURATION OF ILLNESS OF 139 PATIENTS TREATED WITH THEPHORIN OINTMENT AND RESULTS OBTAINED

DURATION OF ILLNESS	TOTAL NUMBER OF CASES	RESULTS				
		GOOD TO EXCELLENT	FAIR	POOR OR NEGATIVE	TOTAL NUMBER IMPROVED	INCIDENCE OF SUCCESS, PER CENT
Six months to one year	33	21	4	8	25	75.7
One to five years	67	45	6	16	51	76.1
Five to ten years	16	9	5	2	14	87.5
More than ten years	23	18	3	2	21	91.3
TOTAL	139	93	18	28	111	79.8

OTHER SIDE EFFECTS

It was observed early in the course of this work that the application of Thephorin Ointment was attended by marked stinging and burning, without relief of itching, in cases of vesicular or oozing dermatitis and in patients whose lesions were characterized by raw sites. The use of Thephorin Ointment is therefore contraindicated in cases of acute dermatitis. In other types of dermatitis a mild stinging or burning ensues immediately after application of the salve. Many persons welcome a mild temporary stinging sensation in place of the sometimes intolerable pruritus. Several of the patients encountered this reaction only at initiation of treatment. On the other hand, in five instances the burning or stinging sensation of the skin was sufficiently severe to warrant discontinuance of Thephorin Ointment. Similarly, in 3 of the subjects complaining of burning or stinging of the eyelids, the medication had to be discontinued. In one infant the application of Thephorin Ointment over the entire body was said to have been followed by insomnia and a mild diarrhea. However, the ointment had been used for eight weeks before these symptoms developed.

Since the base, Carbowax, dissolves nail lacquer to some extent, females using the ointment should be advised of this.

DISCUSSION

Other workers have reported on the usefulness of another antihistaminic drug, Pyribenzamine, by topical application. For instance, Feinberg and Bernstein[6] treated 33 cases of atopic dermatitis with 2 per cent Pyribenzamine ointment. Twenty-four of these patients reported consistent relief from the use of the salve, although some of the subjects obtained more complete relief by the simultaneous internal and local administration of the drug. Furthermore, these investigators reported 9 subjects with pruritus ani of whom 8 had symptomatic relief. Of 10 patients with miscellaneous dermatoses, 6 obtained improvement of the itching. In summarizing their results the authors state that Pyribenzamine ointment "has been found to give relief to the majority of patients with itching dermatoses, particularly atopic dermatitis and pruritus ani."

Sulzberger and his associates[7] made a critical

survey of 90 patients treated with 2 per cent and 5 per cent Pyribenzamine cream. Of 40 cases of atopic dermatitis, 2 showed transitory improvement of the pruritus; 25 showed no change, and 13 were made worse. Of 18 cases of contact dermatitis, 2 showed definite improvement in pruritus and clinical course; 2 showed transitory improvement, and 14 showed no change or were made worse. Of 16 cases of circumscribed neurodermatitis, 8 showed definite improvement in pruritus and clinical course; 4 showed transitory improvement in pruritus and clinical course, and 4 showed no change or were made worse. Of 5 cases of pruritus ani or vulvae, 2 showed transient improvement in pruritus and 3 were unchanged or made worse. Of 11 cases of miscellaneous dermatoses, 2 showed transient improvement in pruritus and 9 cases were unchanged or made worse. Of the 90 cases using the ointment, 2 developed eczematous contact-type sensitization to the drug.

In appraising their findings, Sulzberger and his collaborators state that Pyribenzamine cream is a clean adjunct in the treatment of circumscribed neurodermatitis, but that "its value in the other dermatoses treated is questionable."

Thus, these two groups of investigators report contradictory findings. In our experience, Pyribenzamine ointment has been found of very doubtful value in the control of pruritus with results roughly paralleling those reported by Sulzberger and his associates. In contrast, Thephorin Ointment exhibited distinct antipruritic properties in a variety of dermatoses. In fact, in the majority of cases, a single application of the salve gave complete relief of the pruritus for many hours. If the itching is thus controlled, further traumatization of the lesion from scratching is prevented.

The effect of Thephorin Ointment was found to be more lasting than that afforded by preparations containing a local anesthetic and the danger of causing contact-type sensitization is not so great. However, as pointed out, the application of Thephorin Ointment is contraindicated in acute vesicular and oozing dermatoses. Generally speaking, ointment preparations possess little antipruritic value in the treatment of lesions of this type, relief being obtained chiefly with wet dressings and lotions.

SUMMARY AND CONCLUSIONS

Ointment preparations, containing as active ingredients 5 per cent of the hydrogen tartrate and the phosphate, respectively, of the Thephorin base, were evaluated clinically in 305 patients suffering from a variety of pruritic dermatoses. The details of the results in the various dermatoses are presented in tabulated form. Of these patients 76.4 per cent were helped, with 62.3 per cent deriving good to excellent results from the salve. The preparation is of no value in acute dermatitides, particularly in acute vesicular and oozing dermatitis. However, when such eruptions become chronic and thickened, the preparation is excellent for allaying itching. It is a superior product in localized neurodermatitis and of value in a high percentage of cases of atopic dermatitis. Also, in miscellaneous pruritic dermatoses, it frequently gives relief from itching where other applications have failed.

The beneficial effects of Thephorin Ointment were at least as great in patients with lesions of several years' duration as they were in patients whose illness was of short duration only. The sensitizing index of the salve was found to be low particularly if one considers that it was applied in many cases over a prolonged period and that, frequently, large quantities were applied.

The reports of other investigators who studied the effects of Pyribenzamine ointment in various dermatoses are discussed. In our experience, Thephorin Ointment is, by far, the superior antipruritic agent.

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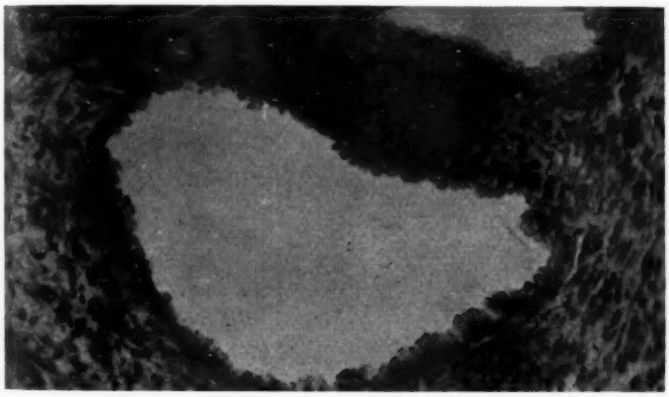
SCIENTIFIC EXHIBIT

Diagnosis of Prostatic Disease

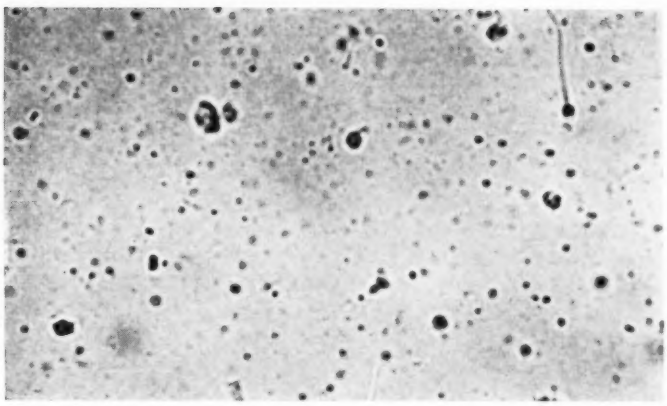
ROGER W. BARNES, M.D., R. THEODORE BERGMAN, M.D.,
AND D. S. RAUSTEN, M.D.

COLLEGE OF MEDICAL EVANGELISTS, LOS ANGELES



NORMAL PROSTATE

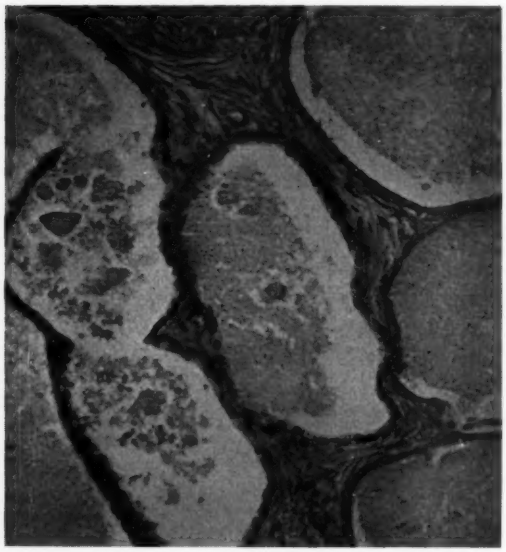
Prostatic acini lined by pseudostratified columnar epithelium, with no definite basement membrane but resting on a stroma of connective tissue, elastic tissue and smooth muscle.



NORMAL PROSTATIC FLUID

Showing lipoid granules, spermatazoa and prostatic epithelial cells.

CHARACTERISTICS OF CHRONIC CONGESTION OF THE PROSTATE



Chronic Congestion: The acini are distended with prostatic fluid so that the epithelium is flattened and the stroma compressed.

Occurrence

Very frequent
Any age after puberty

Symptoms

Heaviness or aching in perineum and rectum
Slight colorless urethral discharge more marked during constipated bowel movement
General malaise

Findings

Prostate somewhat larger than normal, soft and boggy
Seminal vesicles may be palpable, large and soft
More than a few drops of prostatic fluid obtained by gentle massage

CHARACTERISTICS OF FIBROTIC PROSTATE

Occurrence

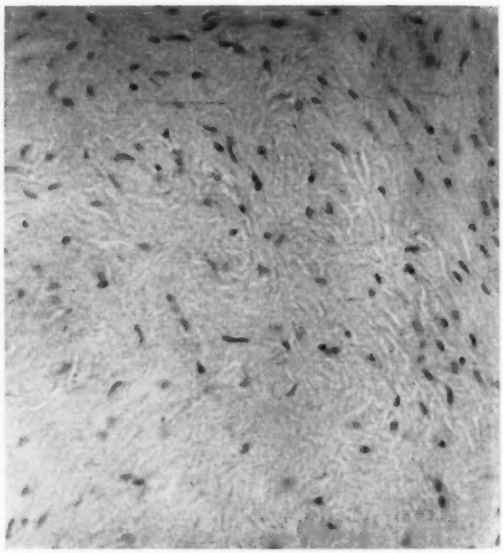
Less common than benign hypertrophy
Any age. May be congenital; may follow long continued chronic prostatitis

Symptoms

Slowness of urinary stream
Sometimes frequency and burning on urination

Findings

Prostate small, firm, well defined and movable
Obstruction at bladder neck
May be residual urine



Fibrotic Prostate: Showing excessive fibrosis.

CHARACTERISTICS OF ACUTE PROSTATITIS

Occurrence

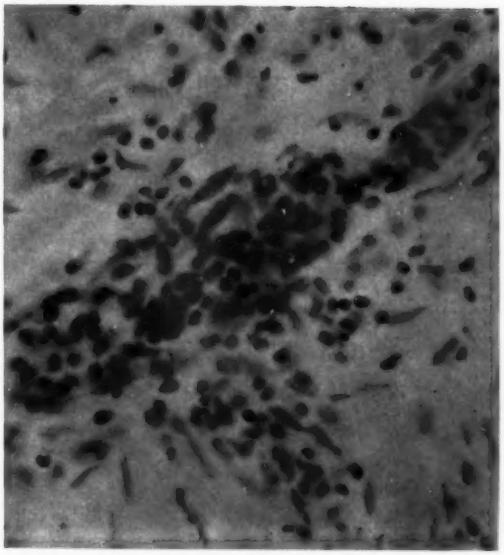
Any age, more common in young men
Frequently due to gonococcal infection

Symptoms

Fever
Severe pain in rectum and perineum
Difficulty voiding

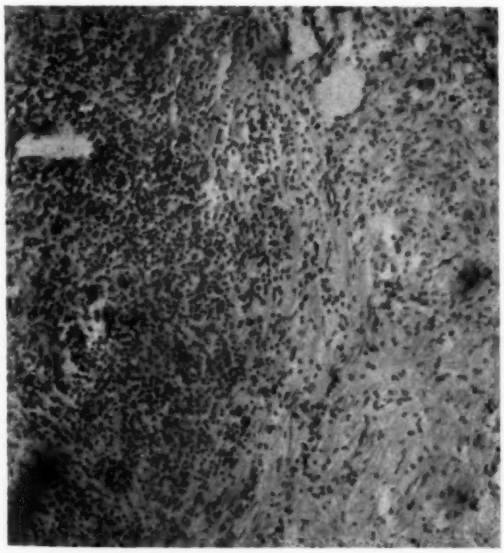
Findings

Prostate large, tense, smooth, very tender
Elevation of temperature and white count
Sometimes urinary retention (avoid catheterization if possible)



Acute Prostatitis: Showing numerous polymorphonuclear leukocytes.

CHARACTERISTICS OF PROSTATIC ABSCESS



Prostatic Abscess: Part of necrosis shown at left with increased polymorphonuclear leukocytes and adjacent fibrosis to the right.

Occurrence

Any age, more frequent in youth and middle age
Often follows acute or subacute prostatitis

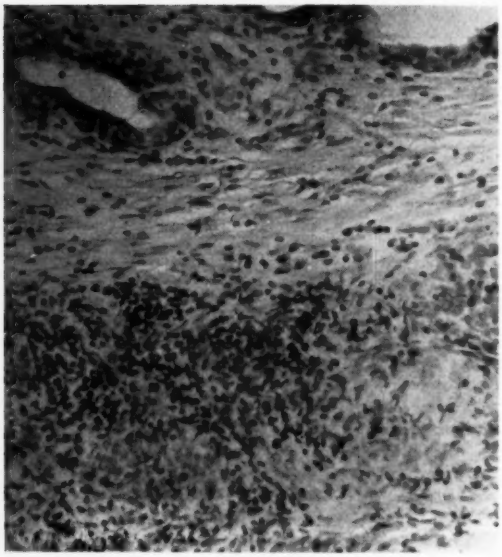
Symptoms

Dull aching pain in rectum and perineum
Frequency and pain at end of urination
Sometimes slow stream
General malaise

Findings

Fluctuating area on prostate if abscess near rectal surface
Areas of induration in remainder of prostate
P.M. elevation of temperature
May be residual urine

CHARACTERISTICS OF SUBACUTE PROSTATITIS



Subacute Prostatitis: Showing predominance of lymphocytes.

Occurrence

Any age. Rare before puberty
Often follows acute prostatitis

Symptoms

Aching pain in perineum and rectum
Frequency and burning on urination
Sometimes slow stream

Findings

Prostate somewhat enlarged, irregular, with soft areas between areas of induration; tender and may not be well defined (when there is peri-prostatitis) difficult to differentiate from carcinoma of the prostate
May be slight P.M. elevation of temperature

CHARACTERISTICS OF CHRONIC PROSTATITIS

Occurrence

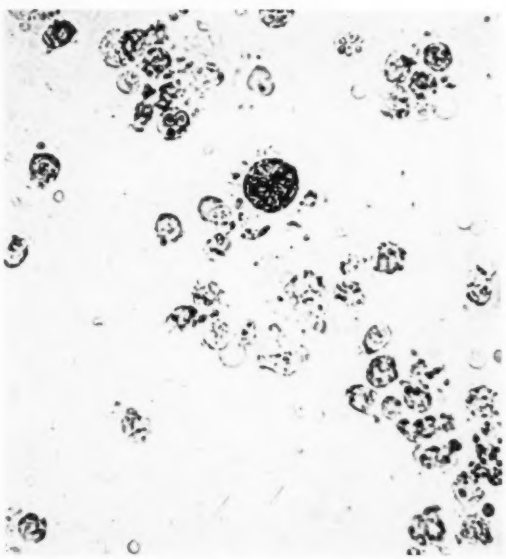
Any age. Rare before puberty
Very common
May accompany benign hypertrophy, prostatic calculi, or chronic congestion
More often nonspecific than gonococcal

Symptoms

May be none
Slight frequency and burning at end of urination
Focus of infection causing iritis, arthritis, etc.

Findings

Prostate slightly irregular, small areas of inflammatory induration
Prostatic fluid contains more than five pus cells per high-dry field



Chronic Prostatitis: Prostatic fluid from chronic prostatitis showing fifteen to twenty pus cells per high-dry field.

CHARACTERISTICS OF TUBERCULOUS PROSTATITIS

Occurrence

Usually in youth and middle age
Comparatively rare

Symptoms

Slight dull aching in perineum
Frequency and burning on urination
Usually accompanied by tuberculous cystitis

Findings

Prostate irregular; small areas of induration; one or both seminal vesicles indurated
Often accompanied by tuberculous epididymitis
Prostatic fluid may contain pus (prostatic massage is contraindicated)

Tuberculous Prostatitis: Showing from left to right (a) caseation-necrosis; (b) surrounded by area predominating in epithelioid cells, and (c) prostatic acini.

CHARACTERISTICS OF PROSTATIC CALCULI

Prostatic Calculi: Roentgenogram showing several small prostatic calculi above symphysis pubis.

Occurrence

Any age
Frequently accompanies chronic prostatitis
Fairly common, but often not diagnosed

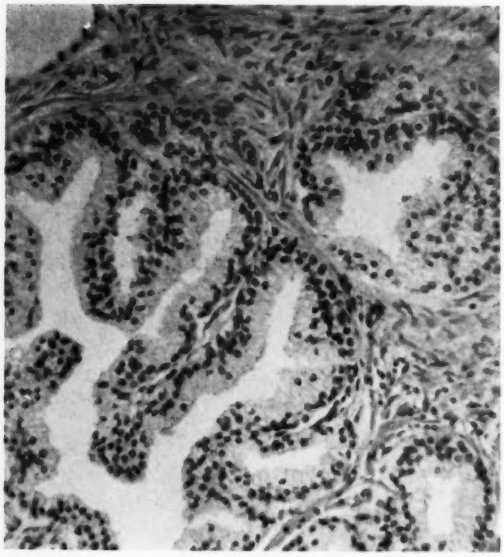
Symptoms

May be none
Same symptoms as chronic prostatitis

Findings

May be none
Same findings as chronic prostatitis
May palpate calculi in prostate

CHARACTERISTICS OF BENIGN HYPERTROPHY



Benign Prostatic Hypertrophy: Showing hyperplasia of glandular epithelium lining the acini and forming finger-like projections into the lumen.

Occurrence

Age—usually after fifty years of age
Very common

Symptoms

Difficulty voiding
Frequency and painful urination

Findings

Prostate enlarged, smooth, regular and elastic in consistency
Obstruction at bladder neck and residual urine
May be infection and upper urinary tract damage

CHARACTERISTICS OF CARCINOMA OF THE PROSTATE

Occurrence

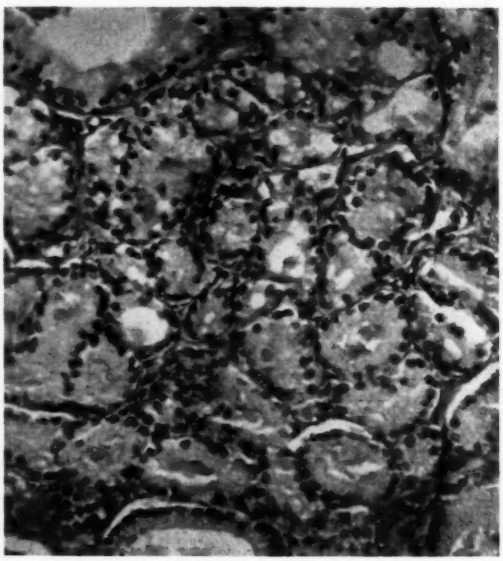
Age—usually about fifty years of age
About 20 per cent of men over 50 who have prostatic symptoms

Symptoms

Early—none
Late—difficulty voiding. Frequency and burning. Difficulty holding the urine. Pain in rectum, perineum and low back. Cachexia

Findings

Early—may be none. Small hard nodule palpable in capsule.
Late—prostate stony hard, fixed, usually irregular and not well defined. Obstruction in prostatic urethra and residual urine



Prostatic Adenocarcinoma: Grade II, showing an increased number of acini with irregular staining characteristics of the nuclei.

The Medical Bookman

GLOMERULAR NEPHRITIS: DIAGNOSIS AND TREATMENT*

THIS book is dedicated to "the patients, dietitians, medical students, and doctors who have worked in the Nephritis Clinic of the Outpatient Department of Stanford University Medical School in San Francisco. Here they will find a record of their observations and of the controversies in which they have taken part over many years."

The "reason" for writing this volume which the author says is "not a textbook" was due to his dissatisfaction with present-day treatment of patients with renal diseases which he states is "inadequate and sometimes dangerous."

The kidneys do an enormous amount of work, and they seem not to have the brief intervals of "rest" which the heart enjoys. Undesirable products of decomposition and "poisons" constantly require extraction from the blood. The selection of such material has always been a matter of wonder, at least to this reviewer. How does the kidney "know" what to do with the vast amount of fluids and solids which in twenty-four hours amounts to 180,000 cc.? This is 600 times larger than the kidneys themselves (page 225), and 3 times larger than the man himself. The usual measured volume obtained from urination in twenty-four hours is about 2,000 cc. Therefore, not all of the grist which comes to the mill is cast off as waste.

While much, perhaps most, of the body débris—animal, vegetable and mineral—goes through the kidneys without destroying the renal cells, there may come a time when these important organs cannot throw off certain substances, bacteria, for example. These may remain as irritants and eventually impair or destroy the cells which are incapable of rejecting the invader. We then have the beginning of "kidney disease," chief of which, according to Dr. Addis, is glomerular nephritis.

The clinician is concerned chiefly with the presence of albumin, casts and sugar. This author uses the term "proteinuria" in preference to albuminuria since it is the "deleterious effect of protein undernutrition" which must be watched for and be circumvented, if at all possible. "Glomerular nephritis is the only disease of the kidneys which we understand well enough to treat scientifically." However, there are limitations in the treatment of outpatients which do not obtain under hospital regimen. A patient whose economic status precludes rest periods as part of the treatment poses a difficult problem to his general medical adviser who must contrive ways and means to keep him going. Laboratory tests are expensive in the determination of creatinine, urea, and protein in the blood because frequent repetition is essential. Therefore, the office nurse must be trained in at least some of these diagnostic technics. The "team then consists of the patient and the doctor and the nurse" or whoever can take up the routine burden of the clinical chemistry. Efficiency is dependent upon such a team. "The growth of efficiency in medical practice is based on team work both in and out of the hospital."

The course of glomerular nephritis may be divided into four stages: the initial, the latent, the degenerative and the terminal. Unfortunately, the terminal is merely a question of time. Days, months or even years may supervene while the patient is kept fairly comfortable, and at his daily tasks. This requires medical management of a high order, and an unremitting effort to maintain the cooperation of the patient.

During the initial stage patients often comment

*Glomerular Nephritis: Diagnosis and Treatment. By Thomas Addis, M.D., F.R.C.P. (Edin.). 338 pages, illustrated. With appendix, reference table and index. New York, The Macmillan Company, 1948. Price $8.00.

that their urine "looks like coffee." Blood comes down a long way through the tubules and is turned brown by the acidity of the fluid in which the blood cells float. Edema about the eyelids is often noteworthy, especially in the morning. It is subcutaneous, not deep in extent. Hypertension usually accompanies the degenerative or terminal stages, but it may be also an early symptom. A rising diastolic blood pressure in children may be associated with edema of the brain and resultant convulsions. The daily blood pressure may plot an interesting curve.

Dr. Addis states that all urine protein is plasma protein, and that it does not come from the disintegration of kidney cells.

Casts are important, and a careful microscopic examination of them may help to determine the location in the kidneys where they are formed. The casts are chiefly hyaline or epithelial, but blood casts are also found. The hyaline casts dissolve in water, but the blood and epithelial ones do not. The three important things about casts are: (1) where they are formed (what part of the kidney); (2) the material from which they are made; and (3) the changes which they undergo from the time of their discharge to the moment of examination under the microscope. The breadth of the cast may determine whether it has been formed in the nephron or in the tubules of Bellini. Casts which are 5 or 6 times broader than ordinary come from well down in the collecting tubules. Narrow casts come from swollen cells lining the tubules.

The extent of the lesion is best determined by ascertaining the concentration of creatinine in the serum. The rate of creatinine excretion remains constant no matter what the size of the kidney. ". . . a simple equation will tell us, from the serum creatinine concentration alone, the extent of any renal lesion in terms of percentage of the normal amount of renal tissue" remaining. (Page 116.)

Bacterial causes of nephritis are set down as Strep. viridans, Strep. hemolyticus, B. typhosus, etc. It is surprising to learn that only one per cent of scarlet fever patients develop glomerular nephritis. Table 34, page 180 cites infectious diseases preceding the initial stage of glomerular nephritis as: tonsillitis 39 per cent; scarlet fever 16 per cent; sinusitis and middle ear disease from 11 to 12 per cent; undiagnosed infections 3 per cent. These percentages are based on a study of 115 patients.

The prognosis depends somewhat on the "theory of rest from osmotic work." It is possible to reduce the size of a kidney by manipulation of the protein intake, and appraised by protein catabolism estimation. Tables and diagrams are given to show how this may be accomplished. Conservatism in prognosis should be the watchword in every case. Under careful management, uremia may be reduced to a minimum and the patient may work in remarkable comfort for a long time. In the terminal stage, the blood urea concentration rises, the urine is more dilute, the anemia worsens, and dietetic regimen fails to bring relief.

Toward the end of the book a full case history of a boy is given. He developed glomerular nephritis when about 10 years old, but through careful management he was able to go through high school, college and on to postgraduate work. He became a teacher of physics and mathematics and secured a Ph.D. as a reward for his industry. Nevertheless the course of the disease was slowly progressive. The precise age at exitus is not told, but he was over 25, which means that he was assisted to maintain fair health for over fifteen years. The question may arise whether one should encourage such intellectual effort despite the limited life expectancy. The answer would seem to be about the same for all "chronics"; namely that anything which contributes to their enjoyment of life, any amusement or hobby or actual productive work which does not militate against the basic principles of therapy, is permissible. In the reported case, the patient was not told of the "fears" of his doctor, but was encouraged to carry on under common sense guidance afforded by dietetic and hygienic factors. Apparently the patient was not of the worrisome sort. He accepted his fate philosophically with a sort of "inner knowledge" of his actual condition, as is usual with astute patients. Indeed an excellent attitude for any human, facing his end. "It is the quiet drowsiness we want. The disease itself will soon bring the deep sleep." Thus ends the book.

I. W. V.

New Books Received

INTRACRANIAL TUMORS, by Percival Bailey. 2nd Edition, 478 pages, 155 illustrations; 16 plates. 1948, Charles C Thomas, Springfield, Ill. Price $10.50.

This work on intracranial tumors comprises one of the most systematic and clearly presented treatises ever written on this subject. Dr. Bailey set out to write a book that would be read by students and physicians and in this goal he has admirably succeeded. The simplicity with which the author has succeeded in presenting this relatively complicated subject is quite unbelievable. Actually, the title of this book, namely, "Intracranial Tumors," is a little modest. Dr. Bailey has subtly interwoven in his presentation a fairly adequate discussion of neurophysiology and clinical neurology.

The first three chapters of this book are devoted to a general discussion of a "few" fundamental anatomic and physiologic concepts, including such subjects as arterial and venous supply of the brain, cerebral cytoarchitectonics, cerebrospinal fluid flow and the ventricular systems, cortical representation, etc. These chapters are followed by a separate discussion of the more common intracranial neoplasms.

The method chosen by the author for his discussion is a little unusual in text but certainly makes for added interest. Each tumor type is introduced by one or two case histories presented as if a clinic were being given. These cases are used as an introduction to a more detailed discussion of the clinical and pathologic aspects of the individual tumor types. All descriptions and discussions have been kept simple, brief but complete in every respect. Operative technics have been reduced to a minimum and concentrated in a single small chapter at the end of the book.

The illustrations are a little unusual. In order to avoid the glare of most photographs, the author has used drawings to illustrate the entire book. At first one may be a little disappointed in these illustrations but further study of them makes one feel more and more satisfied with them.

It is indeed unusual to have such a wealth of material presented in such a charming manner by such a real authority on this subject. This book can be highly recommended to everyone in the profession as an example of excellency in medical writing. It can be particularly recommended to every student in the neurologic sciences as a "must" in his reading and an invaluable addition to his library.

A. B. B.

A-B-C's OF SULFONAMIDE AND ANTIBIOTIC THERAPY, by Perrin H. Long, M.D., F.R.C.P., Professor of Preventive Medicine, Johns Hopkins University School of Medicine; Physician, The Johns Hopkins Hospital. 231 pages. Philadelphia and London: W. B. Saunders Company, 1948. Price $3.50.

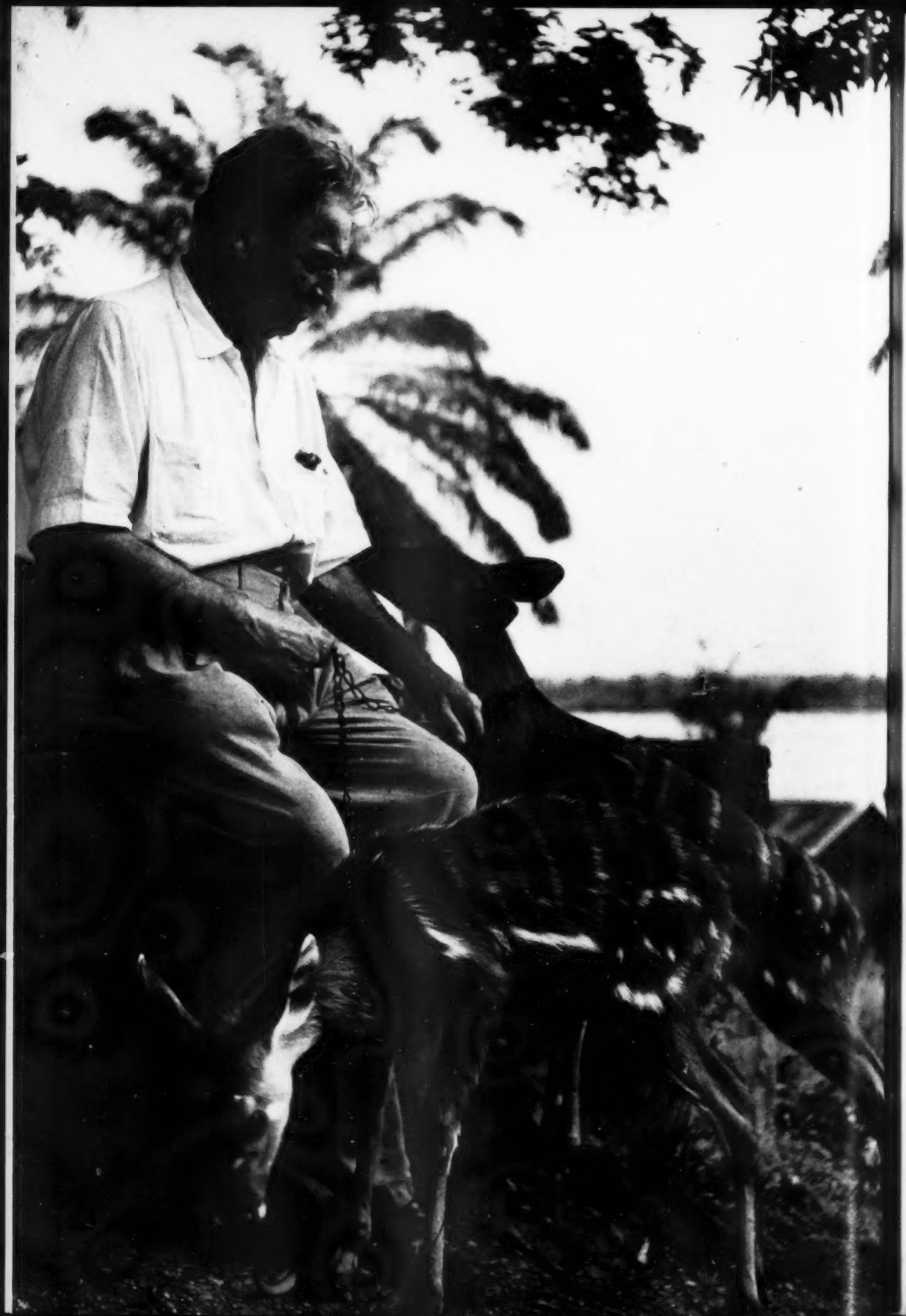
This book has been planned to provide concise, up-to-date information concerning the practical aspects of the use of sulfonamides and antibiotics in the treatment of infectious processes. The data is arranged in readily available form and should be of value to practitioners of medicine and surgery. The clinical pharmacology, toxicity, and methods of administration of the agents are discussed, as well as other general aids to the employment of sulfonamides and antibiotics. The author states that he has omitted a discussion of the topical use of sulfonamides and antibiotics because of the opinion that this form of prescription is usually unnecessary and, in some cases, even harmful.

RONALD ROSS, Discoverer and Creator, by R. L. Megroz. 282 pages. 1948, George Allen and Unwin, Ltd., London and The Macmillan Company, New York. Price $3.00.

This biographical study, first published in 1931, offers a definitive picture of a man who has distinguished himself in such apparently divergent fields as medical science and literature. Sir Ronald Ross has been honored by the Nobel Prize for his discoveries in the field of tropical medicine, but that he is a man of great versatility as evidenced by his writing of novels and poetry and musical compositions is not so well known. As Osbert Sitwell writes in the preface to the book, "Nothing that Sir Ronald Ross may do now can astonish me. . . . Seldom, since the time of Wren, can there have been a man of such extraordinary diversity of genius."

DISEASES OF THE EAR, NOSE, AND THROAT, by William Wallace Morrison, M.D. 1948, Appleton-Century-Crofts, Inc., New York. Price $8 50.

Written for the undergraduate student and general practitioner, and originally published under a different title, this book has now been completely revised and reissued. The material has been handled in a clear and concise style and presents a practical and current approach to the subjects discussed. The illustrations, prepared by the author himself, are schematic in type and lend themselves well to teaching purposes.



MEN OF MEDICINE

Albert Schweitzer..."Reverence for Life"

A FRIEND of Dr. Albert Schweitzer once asked him if he were happy.

"Yes," he replied, "when I am working and getting somewhere. As an individual, I have really ceased to exist. . . . I don't know personal happiness any more."

If "working and getting somewhere" means happiness to Schweitzer, he should be blessed with a feeling of immense well-being. For it is hard to find a man, living or dead, who has worked as hard or accomplished as much as he. To many people he is "the one great man of the century"; warm praise from men like Albert Einstein has won him the title of "the great man's great man." His phenomenal accomplishments are almost unbelievable, and all over the world, people stand in awe of the tremendous intellect, driving, relentless ambition and overwhelming, humanitarian selflessness of this giant among men. Yet Schweitzer, whose influence is known and felt throughout the globe, lives in seclusion in a French Equatorial Africa hospital.

Instead of surrounding himself with the great minds of Europe and the United States, his companions are largely African natives. Instead of the association of brilliant physicians and surgeons, the surroundings of modern, well-staffed hospitals, he consults with a few white assistants and a number of black orderlies in the small confines of his African hospital. Not since 1939, when the threat of war kept him from visiting Europe, has Schweitzer made any attempt to leave Africa. But in spite of his long absence from this part of the world, his influence has not waned. If anything, popular interest in Schweitzer and his work has grown to new and larger proportions. People, everywhere, are asking "Who is this man and what has he done?"

He is an Alsatian—a tall, well-built man with a shock of graying hair and a flowing "handle bar" mustache—whose philosophy makes him a citizen of the whole world; a physician who studied medicine for only one purpose—to alleviate the pain and suffering of the black people in Africa. He is a theologian who balks at religious dogma; a musician whose study and mastery of the organ has brought new interpretations and meaning to organ music and to the music of Bach. As a historian, he has written one of the most thorough studies of the life of Jesus ever to be undertaken, and as a contractor and carpenter, he has built an entire hospital in the African wilds. He is a writer whose words are like poetry, and he is a farmer who grows food for his patients in ground where only creeping vines and tall grasses had lived before his coming.

But beyond those things, and underlying them, he is a supreme humanitarian who has put his thoughts into action by surrendering himself and his individuality to the betterment of his fellow men. The most outstanding testimonial to that surrender is his work as a medical missionary in Africa. But it is not his African work alone that makes him great. Hundreds of other men and women have given themselves unselfishly to missionary and medical work and have never been remembered, except by a very few. Schweitzer is great because he could give himself wholeheartedly to an African hospital—as others have done—and yet never withdraw himself from the world. His immortal contributions to the fields of theology, philosophy, and music—many of them made during his medical career—are enough to bring him lasting fame. To find a man who can organize and run an African hospital, play an organ which has been reconstructed according to his own directions, write a three-volume book on the philosophy of civilization, and explore with careful scrutiny the doctrine of Paul the Apostle is to find a genius of rare talents. But even more rare is the discovery in that man of a simple and all-consuming desire to use his brilliant talents for only one purpose—the good of other men and the dedication of himself to their happiness. When

Opposite page: Dr. Albert Schweitzer and his pet antelopes at Lamberéne.

such a man is found—and Schweitzer is that man—he is indeed great.

Albert Schweitzer became a physician as a result of slow and logical thinking—the kind of thought which has produced his masterpieces of philosophical and theological writing. Although he did not enter medical school until he was 30—an age when most doctors are already practicing—his decision to become a doctor was part of a life pattern which he had laid out nine years before. For at the age of 21, Schweitzer knew without question what he would do with his life.

It was in 1896, when he was home from the University of Strasburg for the Whitsun holidays, that Schweitzer, with the calm deliberation so typical of his character, mapped out his life's plan. It was founded on his solemn, unshakable conviction that he must give himself to the service of suffering humanity, an idea which had been shaping itself within his mind for many years.

The increasing awareness that he was happy while others were not was weighing heavily upon him as he considered his future on that fateful Whitsunday. As he pondered the idea, he became more and more convinced that he must pay for his good fortune. His uncompromising sense of justice told him it was not fair that he enjoy all the advantages of life, while others, less fortunate than he, lived out their lives in misery. Moved by those conscientious promptings, he made his plan.

He would give himself nine years of personal freedom—nine glorious years to spend in the fascinating perusal of his books and the soul-releasing music of his organ. When he reached 30, that period of his life would be over. It would be time to search out the work in which he could be of greatest value to his fellowmen.

That decision, made with such resolved determination in the mind of hardly more than a child, was final. There would be no changing it! But it was a secret, too, to all but Schweitzer. He carried it with him through the precious nine years, pondering, weighing, deliberating what form his "service" should take, but never disclosing to anyone that these years were the last he would spend among them. When, at the end of the nine years, he made his startling announcement, the effect was like a thunderbolt resounding through the quiet and scholarly atmospheres of Gunsbach, Strasburg, and Paris.

There is little wonder that the people who knew Schweitzer were astounded. How many men, at the age of 30, they asked, could point to a record like the one he had already achieved? How could he sacrifice such a brilliant future?

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Schweitzer's study of religion did not follow the tried-and-true pathways of the usual seminary student. He read and learned, of course, all that the course required. But orthodoxy was not for him. As in every field of study he has undertaken, Schweitzer had to prove to himself that the things he believed in were true. From his first days at the University, he always searched and struggled for the Truth.

The son of a pastor of an evangelical church in Gunsbach, Schweitzer had been a deeply religious person all his life. For that reason, it was doubly hard for him to make the studied examination of the Gospels which his desire for truth demanded. But while he knew he was dealing with questions which reached the very core of Christian faith and challenged the innermost parts of his spirit, his probing mind demanded true answers.

Chief among the questions he wanted answered was one which concerned Jesus' echatological prediction of the immediate ending of the world. When he had read every religious commentary he could get his hands on and had gone over the Gospels in minute detail, he drew his startling conclusion. Jesus had erred! It was not easy, in view of his deep and trusting faith in the power and infallibility of Jesus, to make known the results of his study, but Truth, no matter what the price, was of greatest importance to Schweitzer.

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many years. Africa! It was there he was needed; there he could do the most good!

But why medicine?

"I wanted to be a doctor that I might be able to work without having to talk," he explains. "For years, I had been giving myself out in words . . . this new form of activity I could not represent to myself as talking about the religion of love, but only as an actual putting of it into practice."

It goes without saying that once Schweitzer had made up his mind to practice medicine in Africa, he had to go all the way in his preparations. He who had never tackled anything but the theoretical, the cultural, the artistic, was put to the task of mastering the coldly scientific realm of medicine.

He began with courses in medicine, surgery, gynecology, psychiatry, bacteriology, pathological anatomy, pharmacology. He took special courses in tropical disease and started reading as much as he could about Africa itself. Yet, with such a heavy load, he continued for the first four months to lecture on Divinity at the University. And all through medical school, he preached almost every Sunday, continued to play the organ part for the Paris Bach Society and the Orfeo Catala every winter and played several other concert engagements in France and Germany. Almost unbelievably, he was also writing his "Essay on Organ Building," and completing the final chapter of his "The Quest." And as a crowning achievement, he completed his first work on the history of Pauline doctrine, "Paul and His Interpreters."

His last three years in medical school were less strenuous. But while he enjoyed the clinical course far more than he did the first years of medical study, he was still under a strain of fatigue and overwork. He entered for the finals of the State Medical Examinations in 1911, and while preparing for them he also undertook, with Widor, a complete edition of Bach's music which was to comprise five volumes. (The work has never been finished.)

In his last year at the hospital, he continued to work on the Bach volumes, at the same time preparing his thesis for the medical doctorate, doing practical work in the hospitals, making a special study of tropical diseases, and collecting funds for his mission.

As if the criticisms of his friends ("how much I suffered," he wrote, "through so many people assuming the right to tear open all the doors and shutters of my inner self"), and seven years at the University were not obstacles enough to his African goal, he was faced with a third obstruction. Members of the Paris Mission, to whom he offered his services, objected to Schweitzer's "incorrect" theological position. Even if his Christian love could not be denied, they found it hard to accept a mission doctor whose Christian belief did not toe the line of mission doctrine. Not until he visited each member of the Society personally, persuading each one that he wanted to help "only as a doctor," did the Mission accept his gratuitous offer.

He was given permission to establish his hospital, the Society put a house at the Lamberene Mission Station at his disposal, and promised to help in furnishing labor. He, in turn, promised to pay for founding, equipping and maintaining the hospital as well as paying the expense of his own household.

Although Schweitzer's agreement with the Paris Mission appears to be somewhat one-sided, he was highly pleased. The committee gave him a free hand, reminding him only that he should not preach. But as things turned out, that prohibition was removed a few months after his arrival at the general request of his fellow missionaries.

In 1912, Schweitzer had married Helene Bresslau, a trained nurse who shared his ideas of serving mankind. With her, he set out for Lamberene on March 26, 1913, cutting himself off with a swift, sure stroke, from the European atmosphere he loved so much.

His life in Africa began, characteristically, with a disappointment. His wife and he arrived at the mouth of the Ogowe River in the middle of April, and went from there by river boat to Lamberene. When they arrived, they found no evidence of the building which had been promised by the Mission. But with his usual versatility, heightened by his anxiety to begin work at once, he soon had a hospital organized—a windowless, broken-down hen house was his surgery; his own bungalow his dispensary, and the open courtyard his clinic. There, until the regular evening rains drove them away, he treated his first patients.

The shortages which Schweitzer found in building materials, housing, food, labor, were never repeated in the number of patients who began flocking to him from distances of more than 200 miles. From the very first day, he was besieged by natives suffering from the evil diseases of the jun-

Dr. Schweitzer and members of the hospital staff.

The hospital at Lamberéne.

Hospital staff members.

All photographs by Charles R. Joy (Beacon Press), reproduced from the forthcoming Beacon Press-Harper and Brothers book, "The Africa of Albert Schweitzer."

gle—malaria, leprosy, sleeping sickness, dysentery, tropical ulcers, elephantiasis. Among the 2,000 patients whom he treated during his first nine months, he found that hernia, pneumonia, and heart disease were also common, and that except for cancer and appendicitis, every European disease was represented among his patients.

In his writings, Schweitzer mentions the several "unmentionable" diseases he found, "each one more loathsome than the last, which have been brought to these children of nature by Europeans."

Almost as soon as he began practicing medicine, the philosopher-theologian-musician-doctor became a builder. He, who had never before built so much as a lean-to, was determined to build a hospital—if need be, with his own hands. The missionaries gave him 4,000 francs and permission to use a more favorable location—and he set to work.

A timber merchant passing by lent him his crew, but there was "something grandiose" in the laziness of the workers. Schweitzer worked along with them, for when he was gone, they would not lift a finger. The foreman of the gang would do no more than lie in the shade and speak encouragingly.

After two days of almost no work, the laborers collected their pay, headed for the nearest village, and returned to their jobs blind drunk. Schweitzer, his native orderly, Joseph, and two mechanics borrowed from the mission, were left to complete the building alone. The doctor, resenting every minute that took him away from his medical work, and hindered by his colossal ignorance of carpentry and construction, tackled the job with gusto. Before the rainy season in November, he and his assistants had completed the hospital.

The new building contained a consultation room, an operating theater, sterilization room and dispensary. There were cement floors, a roof of palm leaves held in place by slender tree stems, and high, wide windows. Almost entirely with his own hands, Schweitzer built a waiting room and a dormitory of unhewn logs and raffia leaves. For mattresses, he used dried grass.

Sometimes the work was almost too much for him, and the temper which he had inherited from his mother would break out. Because he loathes slipshod work of any kind, he insisted that his diagnoses be certain in every case. Yet how could he spend hours over his microscope when a score of natives were waiting for treatment? He had to find time, too, to prepare medicines in his pharmacy, and acting as his own commissary, he worried about providing food for his patients. In spite of his ruling that patients bring food or they would not be treated, many of them arrived empty-handed, and his compassionate heart could not turn them away.

He was the only doctor within a radius of 100 miles. If an emergency operation had to be performed at any time of the day or night, who else could be called? He was totally responsible for saving a life or saving a man from days of torture. Could he give in to his weariness for such an enormous price?

Schweitzer's iron will has never been able to overcome his extreme sensitivity to the suffering of others. "I belong unfortunately," he says, "to the number of those medical men who have not the robust temperament which is desirable in that calling, and so are consumed with unceasing anxiety about the condition of their severe cases and of those on whom they have operated."

The natives, who believe he can perform magic far superior to that of their witch doctors, have labeled him Oganga—"Medicine Man." But Schweitzer will not take advantage of their faith in him to spread religious dogma or doctrine. On Sunday, he preaches simple sermons to them, trying to impress upon them, as well as he can, the meaning of justice, love, forgiveness, faith in God—trying to erase, as well, the terrible cloud of superstitious fear in which they live. His missionary work, as all his work, depends only upon his belief in the simple Gospel as it was preached by Jesus in his Sermon on the Mount.

For four and one-half years, Schweitzer labored without pause in his Lamberene hospital. Although it is the custom among white people in Africa to take a vacation from the jungle every two years, neither he nor his wife returned to Europe in all that time. He allowed himself almost no recreation—with one exception. During his lunch hour and on Sunday afternoons, he permitted himself the immeasurable luxury of playing his specially constructed piano, which had been a parting gift from the Paris Bach Society.

Schweitzer had told himself that Africa would mean the end of his life as an artist, and at first he scarcely had the heart to practice. The thought occurred to him one day, however, that his precious free hours in the jungle could be used to ad-

vantage. His methodical mind at once formulated an ambitious program. One after another, he would take the compositions of the great composers of organ music, study them down to the smallest detail and learn each one by heart. His practicing, which never lasted more than a half hour a day, was to serve in good stead in later years, when he returned to Europe for concerts which financed his hospital.

When war was declared in August, 1914, Schweitzer received the news with deep sadness. As German subjects, he and his wife were immediately interned in their bungalow, and refused permission to operate their hospital. The unwelcome interruption to his work was a great irritation, but the internment itself was a benefit to the doctor. Since arriving in Africa, he had been much too busy with medical work to spend any time writing. This opportunity to rest and renew his strength also awakened thoughts and ideas which had been occupying his mind since childhood. There was a book he wanted to write . . . a book which would express his pessimistic outlook on the progress of civilization.

The advent of the war only confirmed what Schweitzer had always suspected . . . that the world, instead of progressing as most people assumed, was in actuality in a state of regression. He had not been interned two days before he began his book on the decline of civilization and his prescription for its recovery. Night after night, even after resuming his medical work (he was released at the insistence of the missionaries and natives), he sat up recording with great emotion his thoughts upon the subject.

Thus began the greatest of Schweitzer's literary work, the three-volume "Philosophy of Civilization." Two volumes, "The Decay and Restoration of Civilization," and "Civilization and Ethics" were published in 1923; the third volume, "Reverence for Life" is still in preparation. When he picked up his pen once more in 1914, it was to begin again his career as a brilliant writer. Through the years, no matter how hard he is working or how spent his energy, he has continued to devote a part of his time to thought and to writing.

The mental activity of the man is indeed fabulous . . . and it is coupled with a physical energy that is phenomenal. Now 73 years old, he still maintains a daily schedule that would normally bring a much younger man near to physical collapse. From the time he arises at 6:45 A.M. until he retires at midnight or later, he does not stop to rest except for a short midday siesta. His medical work takes first precedent, but besides treating patients morning, afternoon, and evening, he is the force which holds the entire Lamberene hospital and settlement together. He is, in short, the Lamberene hospital, and one wonders what will become of it when he is no longer there.

"I surprise myself by the way I am able to carry on my work, week in and week out, without a break," Schweitzer writes. "If I went on holiday, I would find out how tired I am."

In spite of his crowded day, Schweitzer still finds time each evening for an hour's practice at his piano. And hardly a night goes by that he does not work on the third volume of his Philosophy. Most of the thought which goes into that book is carried out while he goes about his daily work. "Happily, I have always had the faculty," he says, "while busy with other work of concentrating my mind on the chapter on hand." It is not out of the ordinary for Schweitzer, after he has paid his final visit to the hospital at 11:30 P.M. to work far into the early morning hours.

Thought is the basis of all existence for Schweitzer. Throughout his writings, there is a plea to every person to think for himself, to formulate his own philosophic conception of life. Mankind's "capacity for elemental thinking" is languishing, he believes.

Schweitzer has been deeply preoccupied with the great thought of the world since early University days. Since 1900, he has set himself to study, within the permits of time, all the great philosophies and religions of the world. His thirst for knowledge will never be satisfied, but the philosophical and religious writings into which he has delved are amazingly broad.

Mental work, Schweitzer says, is necessary in Africa to keep up moral health—to counteract "the terrible prose" of African life. But it is not Africa which prompts Schweitzer to think. Thought is as natural and necessary to him as breathing.

It took him fifteen years to think out the answer to the greatest question he has ever set himself to solve. And that answer has formed the basis of his entire life philosophy.

"Why am I justified," he asked himself, "in my firm belief that life is worth living? My knowledge of the world is pessimistic. Why is my viewpoint toward life optimistic?"

Since 1899, he had pondered that question with-

out being able to capture the elusive answer. There was, he felt sure, one basic thought which would give life purpose and meaning. He found that thought in his fortieth year as he traveled slowly upstream on the Ogowe River, bringing medical aid to the wife of a missionary. In typical Schweitzer fashion, he was deep in thought, for he is a man who never wastes a moment of his life. As so often before, in his never-ending search for the key to the riddle of existence, he asked himself the question, "What is it that ethics and the affirmation of life and the world have in common?" And from time to time, he scribbled words, phrases, disconnected sentences on a sheet of paper. He traveled in this manner for two days. Suddenly, at the end of the second day, the words flashed before him—clear and sharp on the whiteness of the page—"Reverence for Life!"

That was it! That was the thought which must guide men's lives!

Since that enlightening moment in 1915, Schweitzer has been convinced he has found the thought which could save civilization from its present decaying state. If man would live, Schweitzer says, by the world-and-life ethics which Reverence for Life imposes—revering himself, his fellowmen, the animals, the trees, everything that lives and grows—civilization would not face the threat of degeneration. He is optimistic in the hope that mankind can redeem itself through a constant seeking after truth. World-and-life affirmation (words which appear over and over again in all of Schweitzer's writing) contains within itself an optimistic willing and hoping which can never be lost, he believes. That belief in the value of existence is at the root of his entire philosophy.

But if Schweitzer did not find the words which expressed his philosophy until he was 40, he was practicing it long before.

"However much concerned I was at the problem of the misery in the world," he wrote, "I never let myself get lost in brooding over it; I always held firmly to the thought that each one of us can do a little to bring some portion of it to an end. Thus I came gradually to rest content in the knowledge that there is only one thing we can understand about the problem, and that is that each of us has to go his own way, but as one who means to help bring about deliverance."

Year after year, Schweitzer has gone "his own way," carrying out in practice the thoughts and ideas he has recorded in his books.

The first break in his African career came in 1917, four years after his arrival, when he was ordered to return to a European prison camp. On the boat to France, Schweitzer was not allowed to write, but even under his depressing circumstances, he set himself to the task of memorizing some Bach fugues and one of Widor's symphonies. That relentless drive never to waste a moment of his life went with him into the prison camps which followed. At a camp at Garaison in the Pyrenees, he became camp doctor and with no books at his disposal, began questioning each of his fellow prisoners—cooks, priests, shoemakers, waiters, architects, musicians, tailors, bankers—absorbing new knowledge in fields which he had never before explored. Every day, on a plank which he marked as an organ keyboard, he memorized more Bach and Widor, pumping the notes out silently from imaginary pedals on the floor. He did not forget his Philosophy of Civilization, although he had left the original manuscript in the safekeeping of an American missionary.

From Garaison, Schweitzer, in a very weakened state, was sent with his wife to the same monastery near Arles where Van Gogh had been imprisoned before his death. And in midsummer, he was returned at last to Gunsbach, drained of his strength and sick at heart.

For the first time in his life—he was 43—Schweitzer was face to face with failure. He underwent an operation, and during the long weeks of recovery, he looked with increasing discouragement on the wreckage of his life. His hospital was in ruins, and he had no income to rebuild it, only enormous debts owed to the Missionary Society and to Paris friends. He had not even the physical strength or health to begin again, let alone support his wife or the daughter who had been born shortly after the Armistice.

He accepted two offers to serve on the staff of the municipal hospital at Strasburg and as curate of the church of St. Nicholas. But he was depressed by the sad dénouement of the dream which he had built and lost.

He believed himself to be forgotten or ignored by the world of scholarship, saying he felt "rather like a coin that has rolled under a piece of furniture and remained there lost." But he was not as forgotten as he supposed. In December, 1919, he was invited to deliver a series of lectures at the University of Upsala in Sweden for the following spring. From that time the future brightened.

At the suggestion of his friend, Archbishop Soderblom, of Sweden, he began a series of recitals and lectures in that country, and within a few weeks, he was able to remove the most pressing of his debts.

He returned to Strasburg in the summer of 1920 and wrote his first book on the "Primaeval Forest" which was translated into five languages. In 1921, he resigned both his Strasburg posts and moved to his father's home, determined to make his living from his organ and his pen. But his lectures and recitals in Sweden had put him back in the public eye, and he was much in demand. From the autumn of 1921, he was lecturing and travelling continually. He went to Switzerland and again to Sweden, made his first trip to England, journeyed to Denmark, and Czechoslavakia, Moravia and Bohemia.

His lectures were greeted everywhere with excited enthusiasm. In most countries, he lectured with an interpreter, rehearsing his speeches first in "short, simple and clearly constructed sentences." Audiences everywhere have claimed Schweitzer works so closely and in such rapport with his interpreters that his lectures are as spell-binding as if he were speaking to each audience in its native tongue.

A year before he returned to Africa, his first two volumes on the Philosophy of Civilization were completed. And that same summer, he recalls, he was also inspired with the idea for a later book, "Memoirs of Childhood and Youth."

By the close of 1923, he was preparing to return to Africa, this time without his wife whose health could not take the strain of the jungle. Accompanying him was a young Oxford medical student, Noel Gillespie, who was succeeded, in later years, by a procession of equally zestful and dedicated young men.

The chaos he found when he reached his Mission was disheartening. His hospital lay in ruins, the roofs rotted, the native-built buildings collapsed, the paths overgrown with weeds, and only a skeleton of the consulting room and pharmacy left standing. Native labor was unobtainable; the timber trade was too prosperous. But Schweitzer could not be defeated. He set out at once to search for "leaf tiles" for roofing, and acquired 64 before evening.

That was only a start. For the next eighteen months, his work of the first period was but a shadow of the labor he put forth to reconstruct his hospital.

George Seaver relates in his biography, "Only a reader with imaginative insight can begin to appreciate the severity of the strain to which he subjected himself, in body and mind, during this period. . . . Only a man with such qualities as he possessed—a rugged frame and an iron will, a brain of ice and a heart of fire—could have stood such a strain without a respite during these first months."

That respite appeared in October when a doctor from Strasburg arrived to help him. Gillespie's time had already elapsed, and he had returned to Europe. The help of the young doctor, Victor Nessman, was incalculable. Ironically, it enabled the brilliant doctor to devote more time not to scientific study or writing or music, but to building. He constructed beds and bed frames (travelling as far as 60 miles for wood), a hut for storing tools, another for food, a ward accommodating 30 beds and a separate ward for surgical cases, and a house for the new doctor and for white patients.

Little by little, things progressed. Another surgeon from Berne came bringing with him a nurse. More buildings to house supplies and a 10-room house on piles with a corrugated-iron roof were built under Schweitzer's direction. Friends in Sweden and in Jutland each sent him a motor boat, and a Swiss builder volunteered his services for several months.

In the meantime, the number of his patients was increasing by leaps and bounds. Their numbers became so great that Schweitzer began to recognize the need for a larger hospital in a wider area. He had boats now, and lumber given to him by a grateful patient. But still he had to shoulder all responsibility for planning the design and superintending the building—the natives would obey no one else!

Building the new hospital meant sacrificing a trip back to Europe for the construction would take at least a year. He set to work at once, pegging out the area first, and stumbling through swamps, thickets, hordes of red ants and all the other jungle impediments. The hospital had to be built on piles, since no brick or stones were obtainable, and each pile, carried 16 miles up the river, had to be charred at the end. He set and fixed each pile himself. With mathematical precision, he worked out the most suitable measurement for their width and breadth and for their numbers and distances apart. The same precision

Dr. Schweitzer and nurse in the pharmacy of the hospital at Lamberéne.

went into the measurements for wards and beds.

The hospital was built of hardwood with corrugated iron roof, and slowly it began to take shape. When it was finished, it represented a plan of design and arrangement worthy of the most well-trained contractor.

Schweitzer found time for other things—digging a well, cultivating a vegetable garden, and attending to the serious cases in the hospital. For in spite of the time-consuming work of building the hospital, his concern for his patients was never a secondary matter.

In 1927, he moved the last of his patients to the new hospital, exulting that at last his patients were housed as human beings should be.

With the final completion of the main building and of plans for a five-room house which would "some day" house the doctors, Schweitzer was ready to return to Europe for a visit with his family. Since then, he has returned to Europe four times, from 1927-29, 1932-33, 1934-February, 1935, and September, 1935-1937. In 1939, he attempted another trip, but upon arriving in Europe, he realized that the threat of war was too near; he turned around and went back to Africa at once.

In Europe, he divided his time between lecturing, writing, and recitals to raise money to continue his work in Africa. His tours were remarkable in their scope. During his visit which began in 1927, for example, he traveled to eight countries, delivering countless lectures, sometimes as many as one or two a day for a week. In addition,

he completed his work on "The Mysticism of Paul the Apostle" and delivered an address on Goethe at Frankfort where he received the Goethe Prize from that city.

His accomplishments in the last twenty years are too numerous to mention. "Out of My Life and Thought," his autobiography, which he wrote in Africa, was published in 1931. "More From the Primaeval Forest" came out in 1931 also, and "Indian Thought and Its Development" in 1936. In 1938, "From My African Notebook" appeared. And all this time, he has been working on his final volume of the Philosophy of Civilization. He has delivered lectures at all the outstanding universities in Europe and continued to thrill millions of listeners with the indescribable beauty of his organ music.

One can go at great length into the myriad things which Albert Schweitzer has done and still not capture the essence and quality of the man himself. He is human nature at its most splendid—a living example of the heights to which man, at his best, can attain. Everything about him is in accord with the greatness of his being—his broad, robust, well-built body, his massive intellect, his direct, unaffected manner. He gives the impression of invincibility—a man who knows where he wants to go and is going there, led by one, all-important desire to improve life and make it even more worth living.

In all his years, he has kept himself close to life, feeling a deep affinity for all that grows and breathes. His Reverence for Life is so profound that he will not harm the lowliest weed or the most obnoxious form of animal life—unless it is threatening the existence of other living forms. But he never escapes from reality, and while it saddens him, he is aware that Reverence for Life cannot alter the fact that life owes its existence to other life. If people and animals must eat, then growing things must die. But any waste of life—vegetable or animal—is to him appalling.

Schweitzer, despite his warm sense of humor, is a man who takes everything seriously. He is an alien to the world of superficial interests, not because he scorns it, but because he has no time for it. His friendships are a curious mixture of deep affection and reticence. He is never able to open himself entirely to anyone, yet is always willing to listen to the troubles of others. For his friends, he built a special Guest House at Gunsbach, paid for it with the Goethe Prize money. Whether or not their host is there, guests continually throng the house, where they are made to feel completely at home.

Unlike most philosophers, who deal almost totally in abstractions, Schweitzer insists that all things be brought into the realm of reality. He is a firm believer that idealism can be applied to the everyday world. His description of Paul the Apostle could well be ascribed to him:

"Side by side with Paul's achievement as a thinker must be set his achievement as a man. . . . So long as the earthly world with all its circumstances still subsists, what we have to do is so to live in it in the spirit of unworldliness that truth and peace already make their influence felt in it. That is the ideal of Paul's ethic, to live with eyes fixed upon eternity, while standing firmly on the solid ground of reality. . . ."

The medical world will not laud Albert Schweitzer for his startling discoveries in the field of medical science. He is not in Africa to study diseases but to help the people they afflict. He welcomes new discoveries with heartfelt gratitude, but he has not the time for pioneering in scientific experimentation. His enormous contribution to medicine has been the day-to-day, steady plodding of the general practitioner, fighting against overwhelming odds which he can never wholly conquer. Yet never ceasing in his attempt to help as many as he can as much as he can.

Africa has become the symbol of his life. There he is satisfying his inner compulsion to perform the duty which life demands of him and to live life as he believes it ought to be lived. However stimulating or inspirational his writings, his life, itself, does more than anything else to show the world that life can be worth living!

Surely here is a tribute to the dignity of man!

BAYLE ZUROVSKY

Books by and about Dr. Schweitzer which the author consulted include: Schweitzer, "The Forest Hospital at Lamberéne" (translated by C. T. Campeon), New York, Henry Holt and Company, 1931; "From My African Notebook" (translated by Mrs. C. E. B. Russell), London, Allen, 1938; "Memoirs of Childhood and Youth" (translated by C. T. Campeon), London, Allen, 1924; "My Life and Thought" (translated by C. T. Campeon), New York, Henry Holt and Company, 1933; "On the Edge of the Primeval Forest" (translated by C. T. Campeon), London, A. and C. Black, Ltd., 1922; Hagedorn, Hermann, "Prophet in the Wilderness," Macmillan, 1947; Joy, C. R., editor, "Albert Schweitzer: An Anthology," New York, Harper, 1947; Kraus, Oscar, "Albert Schweitzer, His Work and His Philosophy," London, Black, 1944; Seaver, George, "Albert Schweitzer, the Man and His Mind," Harper, 1947.

EDITORIALS

ALCOHOLISM

TODAY, more than ever before, medicine and psychiatry are working with the problem of alcoholism. Alcoholism is now recognized generally, in most instances, as a symptom of emotional illness—ranging from a major psychiatric reaction to an attempt to escape from dreary existence—and is definitely to be distinguished from social drinking. However, the dangers of heavy social and heavy *daytime* drinking must be more thoroughly understood.

When we describe an alcoholic as a sick person, the description is accurate. But, in common with those suffering from other illnesses, many alcoholics can be "cured." Some even work out their own recovery. Just what is an alcoholic? So far as any especial alcoholic personality type is concerned, there is none. By and large (excluding the total psychopath, the psychotic, the epileptic, the deteriorated, and the feeble-minded), the alcoholic of today has better than average intelligence but a poorly integrated personality, with marked emotional instability and inability to accept frustrations.

His unsatisfactory interpersonal relationships and emotional immaturity, which place self above all else, produce a need which he thinks can be satisfied through the use of alcohol—as a narcotic, as an anesthetic, or as a release from the bonds which tie him to a hum-drum, every-day plane of living.

But, unlike the social and even the occasionally intoxicated drinker, alcohol dominates him to the extent that it drastically affects one or more of his essential life activities, such as his ability to maintain economic equilibrium, his reputation, or the harmony of his home life. Loss of insight, or the ability to evaluate what damage his drinking is doing to himself and others, is a usual consequence.

For any or all of these reasons the alcoholic should be recognized as a sick person who needs competent psychiatric treatment. How he got that way in the first place may be just as complicated and hard to define concretely as will be the treatment needed for his cure. Actually, an alcoholic is developed by many inter-related factors, together with his biological make-up and metabolism. He is the product of his ancestry—their racial background, drinking, and other life habits. His own personality, of course, results in part from his early experiences in life—his hurts and happiness—and also his later experiences, which may be profoundly formative. Among these are vocational factors, emotional experiences, religious attitudes and convictions, ideologies, the social drinking habits of his friends, and the social pressure to drink among friends and business associates. Then there are his own inner drives, striving against inhibitory barriers. To round out a picture of an alcoholic, insofar as that is possible, it may be said that studies of both men and women many times reveal the following characteristics: self-pampering; frustrated strong urges; a habit of avoiding responsibilities; various emotional hurts; psychosexual frustrations and hurts; and the emotional urge to take the brakes off certain sex drives and allow them free range.

Also, psychiatric study may often bring out marked insecurities constantly active in the personality, and identification and imitation factors, rather than any inherited tendency to be an alcoholic. Alcoholism may result, in

some cases, from heavy social drinking, time, body changes, and strains and griefs of life. According to some investigators, on the other hand, alcoholism may be evidence of latent or overt homosexual ingredients or of intense, unconscious, self-destructive tendencies.

To repeat, an alcoholic is a sick man, but his addiction to alcohol is itself a symptom rather than a disease. Alcoholism may be part of any psychiatric clinical reaction or produced by any psychiatric clinical reaction. It presents itself like the top of an iceberg. The great need is to understand what lies beneath. Each patient must be taken as a wholly new, and entirely different, problem.

Concerning treatment, beside the medical psychological approach, there are reports that some alcoholics have stopped drinking by themselves. Others have been helped by religious groups, lay groups, and lay-and-religious groups. Even the old "Keeley Cure" helped many an alcoholic—and some now recommend a conditioning or aversion treatment without psychotherapy; while others, with deeper interest, use this method in order to get a beach-head on the patient and then follow up with psychotherapy. Generally speaking—deep, lengthy psychoanalysis alone, hypnosis alone, hypnoanalysis alone, narco-analysis alone, or the assaultive therapies alone—such as chemical, drug, or electric shock, or various types of lobotomy—are not helpful. In the treatment of alcoholism, competent, especially trained psychiatrists with a broad medical background are needed.

Because of alcoholism's widespread, insidious encroachment in all spheres of life, and its destructive effects on the family and on the community, the medical profession and allied sciences must attack the problem in its early stages. Moreover, they should strongly support existing community programs, educational courses, and church activities, giving to these the solidarity of medical backing and guidance to aid us in prevention of this major social health problem.

ROBERT V. SELIGER, M.D.

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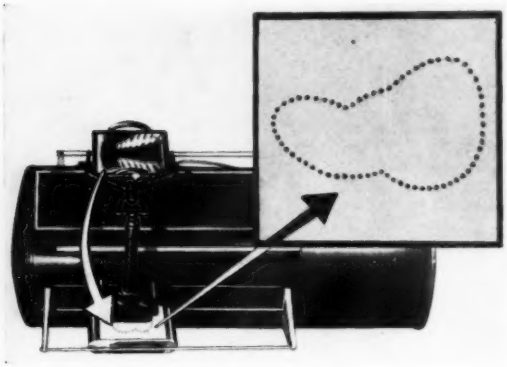


ELECTRONIC STYLUS

PURPOSE: Attachment for fluoroscopes.

The complete unit consists of (1) bracket and guide rod assembly which mounts on fluoroscope cabinet to provide support and vertical movement guide for recording paper holder; (2) adjustable tension, writing stylus encased to mount on fluoroscope arm; (3) new screen back with lead cross for alignment of target; and (4) depression switch mounted on either right or left screen handle. Only requirement after mounting is a convenient 110 volt A.C. outlet.

The resulting image on the recording paper will not be enlarged as viewed on the screen itself but will be the true size and shape of the internal organ being traced.

PRODUCER: Continental X-ray Corporation, Chicago, Ill.

METHADON HYDROCHLORIDE

PURPOSE: An analgesic agent for relief of moderate to severe pain.

COMPOSITION: 6-Dimethylamino-4, 4-diphenyl-3-heptanone hydrochloride.

DESCRIPTION: A synthetic drug whose action resembles that of morphine in most respects, and is equal to or superior to morphine in analgesic potency.

INDICATIONS FOR USE: Recommended as an analgesic agent for relief of pain in the same conditions for which morphine, codeine, and mepheridine are indicated.

CAUTIONS: Indications and contraindications for use of the drug should be considered analogous to those of morphine until additional data permit a more comprehensive evaluation. Unlike morphine, however, methadon alone is not recommended for preoperative sedation or in the practice of obstetrics.

DOSAGE AND ADMINISTRATION: Effective adult doses range between 2.5 and 10 mg., depending on intensity of pain and its etiology. Doses up to 15 mg. may be considered in cases of severe pain. Pain is relieved in a majority of cases by doses of 7.5 mg. orally every three or four hours. For cough, 1.25 to 2.5 mg. orally is given every three hours. For parenteral administration, the recommended dose is 2.5 to 10 mg., injected subcutaneously. Injection may be made intramuscularly if it appears desirable.

HOW SUPPLIED: Tablets of 2.5 mg., 5 mg., and 7.5 mg., bottles of 100 and 1,000. Also supplied in solution containing 10 mg. per cc., in 1-cc. size ampules, in boxes of 6 and 25.

PRODUCER: Abbott Laboratories, North Chicago, Ill.

COMPANOL

PURPOSE: For prevention of travel sickness.

COMPOSITION: Each tablet contains:

Scopolamine hydrobromide	0.22 mg. (1/300 gr.)
Atropine sulfate	0.16 mg. (1/400 gr.)
Luminal (brand of phenobarbital)	32 mg. (½ gr.)

DOSAGE AND ADMINISTRATION: Companol is administered before, at the onset of travel, and during travel. Adults should take 1 tablet thirty minutes before boarding a ship, airplane, train, or car. A second tablet is administered at the time of embarkation. Additional tablets (1 at a time) may be taken every three or four hours, if necessary. The total dose should be kept as small as possible, being limited usually to 4 tablets a day.

CAUTION: The danger of overdosage and idiosyncrasies to the components of Companol should be kept in mind. Caution is particularly indicated in prescribing Companol to pilots or automobile drivers because it may produce drowsiness.

HOW SUPPLIED: In tubes of 12 and bottles of 50 tablets.

PRODUCER: Winthrop Chemical Company, Inc., New York 13, N.Y.

TRESAMIDE TABLETS

PURPOSE: A sulfonamide triad that reduces renal crystalluria and toxic reactions.

COMPOSITION: Each 0.5 gm. Tresamide Tablet contains:

Sulfamerazine	0.1 gm.
Sulfadiazine	0.2 gm.
Sulfathiazole	0.2 gm.

INDICATIONS FOR USE: Treatment of acute pneumonia, and also hemolytic streptococcic, meningococcic, gonococcic, and staphylococcic infections.

DOSAGE AND ADMINISTRATION: Suggested adult dosage is: initial dose 4.0 gm., followed by 1.0 gm. every four hours. Children: 0.2 gm. per kilogram of body weight (one-third of this amount initially, the remainder in five equal doses).

HOW SUPPLIED: Bottles of 100 and 1,000 tablets, 0.5 gm. each.

PRODUCER: Sharp & Dohme, Inc., Philadelphia 1, Pa.

WESTSAL

PURPOSE: Salt substitute.

COMPOSITION: Contains lithium chloride, citric acid, and potassium iodide, and tastes exactly like salt.

INDICATIONS FOR USE: When sodium intake must be limited in congestive heart disease (and certain other heart conditions), certain renal conditions, hypertension, toxemias of pregnancy, cirrhosis of the liver, epilepsy, and in the Gerson diet in tuberculosis.

DOSAGE AND ADMINISTRATION: Sprinkled on the food at the table, or used in cooking and baking, according to the flavor desired by the individual.

HOW SUPPLIED: Special sprinkling bottles of 2¼ ounces.

PRODUCER: Westwood Pharmacal Corp., Buffalo 13, N.Y.

EDRYL

PURPOSE: For treatment of nasal congestion and sinusitis caused by gram-positive bacteria.

COMPOSITION: A concentrated solution of tyrothricin and ephedrine, with propylene glycol.

DESCRIPTION: The concentrate remains stable. Diluted 1:3 for use, Edryl supplies tyrothricin 0.02 per cent and ephedrine 0.5 per cent, and exerts powerful antibacterial effect despite presence of pus and mucus. Solution should be made fresh every two days to assure potency.

INDICATIONS FOR USE: To combat secondary gram-positive infections of the nose and sinuses following episodes of the common cold or allergic rhinitis.

CAUTIONS: Edryl (like other ephedrine-containing preparations) should be used with caution in coronary disease, hypertension, thyroid disease, or diabetes.

DOSAGE AND ADMINISTRATION: Administered with the Jetomizer (nasal applicator), the normal dose is two jets in each nostril. (Each jet delivers 2 to 3 drops.) For acute nasal congestion or ethmoiditis, two additional doses at five-minute intervals, repeating the dose every hour until congestion subsides. Dilute solution may also be given by atomizer or dropper.

HOW SUPPLIED: Bottles of 1 oz., with or without Jetomizer.

PRODUCER: Wyeth Incorporated, Philadelphia 3, Pa.

RUTAMINAL SCHENLEY

PURPOSE: Adjunctive therapy in arteriosclerosis, angina pectoris, coronary disease, and congestive heart failure.

COMPOSITION: Each tablet of Rutaminal contains aminophylline 1½ gr.; rutin 20 mg.; phenobarbital ¼ gr.

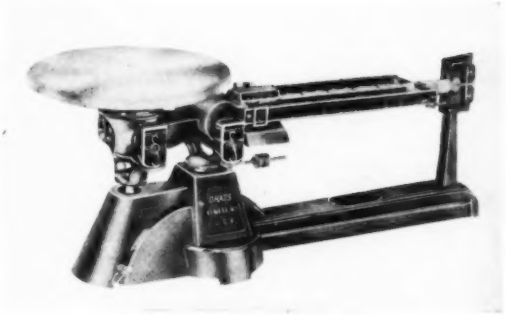
INDICATIONS FOR USE: For conditions manifested in structural and functional changes such as vascular spasticity, sclerosis, myocardial insufficiency and, of more recent interest, increased capillary fragility.

DOSAGE AND ADMINISTRATION: Recommended dosage is one or two tablets three or four times daily, preferably after meals. Duration of therapy depends on requirements of the patient. If required, the dose of rutin may be increased by supplemental use of Rutin Tablets Schenley, 20 or 60 mg. each.

CAUTIONS: Rutaminal is contraindicated for patients with severe impairment of renal or hepatic function and in Parkinson's disease.

HOW SUPPLIED: In bottles of 100 tablets.

PRODUCER: Schenley Laboratories, Inc., New York 1, N.Y.



OHAUS BALANCE

DESCRIPTION: The Ohaus Scale Corporation announces the availability of its new Triple Beam Balance featuring a stainless steel platform and beams. The Ohaus Triple Beam Balance is equipped with a stainless steel plate at the point of continuous usage—where all-element resistance is needed.

The beam calibrations are as follows: Front beam 10 by 1/10 gm.; center beam 500 by 100 gm.; back beam 100 by 10 gm. Sensitivity: Rated 1/10 gm.; actual 1/20 gm. Scale capacity: Scale capacity without attachment weights 610 gm.; scale capacity with attachment weights 2610 gm. Also available in avoirdupois standard with decimal and fractional ounce calibrations.

PRODUCER: Ohaus Scale Corp., 10-14 Hobson St., Newark 8, N.J.

TESTOSTERONE PROPIONATE

PURPOSE: A steroid compound having definite androgenic characteristics, and usually considered to be the fundamental male sex hormone. Testosterone Propionate in Oil is a sterile solution for intramuscular use.

INDICATIONS FOR USE: Provides replacement therapy in conditions where there is a deficiency of androgens; in some cases, to counteract the stimulating effect of excess estrogens. Useful in hypogonadism, and female disorders.

HOW SUPPLIED: In 10 cc. Steri-Vials in two strengths: 25 mg. per cc., and 50 mg. per cc.

PRODUCER: Parke, Davis & Company, Detroit 32, Mich.

NEO-HOMBREOL
(M) Sublingual Tablets

PURPOSE: Sublingual tablets for buccal administration of male sex hormone therapy.

COMPOSITION: Each tablet contains 5 mg. of pure methyl testosterone.

DESCRIPTION: Neo-Hombreol tablets are absorbed through the mucous membrane of the mouth and provide androgenic effect when placed beneath the tongue or between the gum and cheek and retained until completely absorbed.

HOW SUPPLIED: Boxes of 30 and 100.

PRODUCER: Roche-Organon, Inc., Nutley, N.J.

Leaves from a Doctor's Diary

By Maurice Chideckel

October 1 . . . He was no shining jewel in the diadem of his heritage. No doubts or fears beset him. He exemplified man's retreat from humanity, and he gave the lie to the theory that environment makes the child and shapes the man. He lied, stole and robbed, and possibly even killed. Like all gangsters—the products of our age—the exorbitant estimation of himself knew no bounds. As he lay dying from bilateral pulmonary hemorrhage following a gunshot wound, fully conscious, he told the stories of his escapades with sadistic zest. The administration of whole blood, donated by his brothers in crime, acted adversely as to the extent of the hemorrhage. He may have been given too much, which increased his blood pressure. His estranged wife now stood near him. He began to grow weaker. "Swear," he addressed himself to his wife, "that as soon as I am gone you will marry John the Bat." She shook her head negatively. "You once told me," she protested, "that he is a dirty rat, and that you hate him like poison." "That's why I want you to marry. . . ." The sentence was never finished. His comrades will see to it that she carries out his orders.

I watched those comrades, twenty of them, marching out of the hospital and it was a somnambulistic procession. Clumsy, slow-moving figures, their faces expressionless and lifeless, subhuman creatures that have no conception of the value of life, that of others or their own, creatures that repel. Viewing them, no one would ever suspect that these animalized beings constitute a menace to society, and that at times they are complex and resourceful. One of the twenty killed the gangster who just died. Each knew who committed the murder. The secret will die with each. And I was thinking. The man in bondage to the bottle, the alcoholic, is proclaimed a sick man. Isn't the one in bondage to crime equally sick, or sicker? And is extermination the only prescription?

The nurse awoke me from my reverie. "Mrs. Pimschenholtz feels very bad." I rushed into her room. There stood her husband listening to her with unabated attention. "I will soon die," she spoke feebly. "Promise me that when you go to my funeral, you will ride in the same car with my mother." He scratched his head vigorously. "Well," he said and distorted his face, "if you insist. O.K. But I tell you I sure won't enjoy the ride." She disappointed him painfully. She did not die.

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October 2 . . . At the age of 59, bachelor maiden Helen's life became suddenly crowded with romance and achievement. Her case was that of senile vaginitis with bleeding—bleeding profusely at times. "What causes it?" she asked. I began: "In married women, intercourse may be a cause." She interrupted: "Can't intercourse be a cause in unmarried women too?" And soon her speech was entertaining and revealing. It proved to be a compound of wit, allegory and a sprinkle of real philosophy. "A body does not hurt anybody by having a little pleasure in life. What are we living for anyhow? Can't a girl use her private property as she likes? She sure can. Oh no, not him." She meant the dignified, prosperous-looking man in the waiting room, who came with her. "No. Can't with him. I am going to marry him. I've got to be innocent. Just got to. What? How did I get him? Well, it's quite romantic. It was in a crowded streetcar when he stepped on my foot. It hurt so badly I called him a rat. He said I was a hellcat. One word led to another, and when we left the streetcar we were engaged."

The comedy of human existence. Amusing and deceiving, banal and dull. Life, a brilliant landscape with many a radiance that sheds an unflickering light; with others only dark shadows, in which men seek an escape and never find it. It's lasting and unchanging, as Nature itself, and you can't do a damn thing about it.

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October 5 . . . Ah, here is another maiden, not so pretty, Anita Fike, the aunt of a patient I was vitally interested in. Because of people like her, I long ago lost ardent faith in promises, and have found that realization is much preferable to anticipation. Hence I advised surgeon B.M. to collect his fee in advance. The operation was for patent ductus arteriosus of the adult type in a boy of 14. The surgeon's excision of the stenotic aorta and his end-to-end anastomosis of the two ends of the aorta were surgical masterpieces. Three weeks after the operation, the patient died from hemorrhage.